

1st EDITION

Ontario

COMPREHENSIVE POLICY STATEMENTS

Implementation Guidelines

Planning
reform
in Ontario

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Planning
reform
in Ontario 

AWP 8909

Deputy Minister's Foreword

These Implementation Guidelines provide information to assist in the understanding and implementation of the Comprehensive Set of Policy Statements. The Implementation Guidelines are advisory and suggest approaches to implementing the policies through the land use planning process.

This is the first edition of the Implementation Guidelines. It is the Government's intention to review the guidelines over the next year with the assistance of the participants in the planning process. Revisions to the guidelines will be made at the end of the first year to reflect new and innovative approaches to implementing the policies.

The Government gratefully acknowledges the assistance of representatives from private sector, community groups and municipalities who reviewed drafts of the guidelines during their preparation and made many useful improvements.

The guidelines were developed with many affected ministries and agencies including the following:

Ministry of Agriculture, Food and Rural Affairs

Ministry of Community and Social Services

Ministry of Citizenship

Ministry of Culture, Tourism and Recreation

Ministry of Economic Development and Trade

Ministry of Education and Training

Ministry of Environment and Energy

Ministry of Health

Ministry of Housing

Ministry of Natural Resources

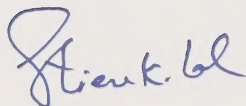
Ministry of Northern Development and Mines

Ministry of Solicitor General and Correctional Services

Ministry of Transportation


Ontario Native Affairs Secretariat

Women's Directorate



Stien K. Lal

Deputy Minister
Ministry of Municipal Affairs



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COMPREHENSIVE POLICY STATEMENTS IMPLEMENTATION GUIDELINES

Introduction to the Implementation Guidelines

POLICIES A to G

These implementation guidelines have been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be

reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative and policy requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of the Introduction to the Implementation Guidelines, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

Introduction to the Implementation Guidelines

<i>Goal A</i>	<i>A1.1, 1.4</i>	<i>Water Quantity and Quality</i>
	<i>A1.2, 1.4</i>	<i>Natural Heritage and Environmental Protection</i>
	<i>A1.3</i>	<i>Fish Habitat</i>
	<i>A3.1, 3.2, 3.3</i>	<i>Natural Hazards</i>
	<i>A3.3</i>	<i>Past Mining Activities</i>
	<i>A3.3</i>	<i>Petroleum and Salt Solution Mining Hazards</i>
	<i>A3.4</i>	<i>Contaminated Sites (not included in this edition)</i>
<i>Goal B</i>	<i>B1</i>	<i>Social and Human Services</i>
	<i>B2</i>	<i>Public Streets and Facilities Used by the Public</i>
	<i>B3</i>	<i>Mainstreets and Downtowns</i>
	<i>B4</i>	<i>Diversified Economic Base</i>
	<i>B5</i>	<i>Efficient Use of Land, Infrastructure and Facilities</i>
	<i>B6</i>	<i>Efficient Transportation Systems</i>
	<i>B7</i>	<i>Planning for Sewage and Water Services</i>
	<i>B8, 9, 10, 11</i>	<i>Growth and Settlement</i>
	<i>B12</i>	<i>Access to Public Land and Water Bodies</i>
	<i>B13</i>	<i>Significant Landscapes, Vistas and Ridge-lines</i>
	<i>B14, 15</i>	<i>Cultural Heritage Landscapes, Built Heritage Resources and Archaeological Resources</i>
	<i>B16</i>	<i>Transportation and Infrastructure Corridors</i>
	<i>B17</i>	<i>Land Use Compatibility</i>
<i>Goal C</i>	<i>C1 to C9</i>	<i>Housing Policies</i>
<i>Goal D</i>	<i>D1 to D5</i>	<i>Agricultural Land Policies</i>
<i>Goal E</i>	<i>E1, 3</i>	<i>Conservation of Energy, Water and Building Materials</i>
	<i>E2</i>	<i>Efficient Transportation Modes</i>
	<i>E4</i>	<i>Waste Management Systems</i>
<i>Goal F</i>	<i>F2.1, 2.2, 2.3, 2.4</i>	<i>Mineral Resources</i>
	<i>F2.1, 2.2, 2.3, 2.4</i>	<i>Petroleum Resources</i>
<i>Section G</i>	<i>Interpretation and Implementation</i>	

Introduction to the Implementation Guidelines

The Comprehensive Set of Policy Statements was issued by Cabinet and came into effect on March 1, 1995, the date the *Planning Act* provisions of the *Planning and Municipal Statute Amendment Act*, 1994 were proclaimed and published in the Ontario Gazette. The Comprehensive Set of Policy Statements cover a broad range of policy areas affecting matters of provincial interest, dealing with six major policy areas:

- Natural Heritage, Environment and Hazards - Goal A1, A2, A3;
- Economic, Community Development and Infrastructure - Goal B;
- Housing - Goal C;
- Agricultural Land - Goal D;
- Conservation - Goal E; and
- Mineral Aggregate, Mineral and Petroleum Resources - Goal F1, F2.

Implementation and Interpretation issues are addressed in section G.

To assist planning jurisdictions in implementing the Comprehensive Set of Policy Statements, the Ministry of Municipal Affairs, together with other ministries and in consultation with representative stakeholders, issued this first edition of implementation guidelines. These guidelines are advisory only, and they do not add to or derogate from policy. They provide information to assist in the understanding of the policies and describe some approaches which have been determined to be consistent with the policies.

More information will be provided on the structure and purpose of the policy statements and the guidelines in this Introduction and in the guideline for section G (Interpretation and Implementation). But first, some background on the planning reform initiative may be helpful.

1. Planning Reform

The Commission on Planning and Development Reform in Ontario presented its final report, including 98 recommendations, in June, 1993. As part of this package, a set of policy statements and a number of legislative amendments were proposed. The planning reform initiative was based on these recommendations, focusing on empowering municipalities, protecting the environment, and streamlining the planning process. The initiative included legislative changes, a new comprehensive set of policy statements, and administrative changes which were intended to improve the land use planning system in Ontario.

As a result of this initiative, municipalities were given a greater role in administering the planning process and in preparing official plans, consistent with the policy statements, to guide their long-term physical development and to provide a context for day-to-day decisions on development applications.

Three major roles of the province in land use planning are to:

- establish policies that guide provincial and municipal planning;
- provide any existing information, as well as criteria or standards for the collection of new information; and
- monitor the effectiveness of and application of policy.

The Ministry of Municipal Affairs coordinates land use interests across provincial ministries and approves the official plans and amendments of regions, counties and separated cities, as well as those prepared by planning boards.

2. Comprehensive Set of Policy Statements

In keeping with its role as policy maker, the province has approved a comprehensive set of policy statements on a variety of provincial interests. These policy statements summarize existing policies and positions that affect land use planning. The emphasis is on implementation of the policy statements through the policies and designations of official plans.

These policy statements apply to new applications submitted on or after the effective date of the policy statements, except as specified in section G2. The policy statements apply to applications under the *Planning Act* or any other Act prescribed by regulation.

Decisions made under the *Planning Act* (or other legislation specified by regulations passed to implement section 3), as well as comments of provincial ministries, boards, commissions and agencies on such planning applications, "shall be consistent with" these policies.

The policy statements are to be read in their entirety, and all applicable policies applied to each situation where they apply.

For information on the composition of the policy statements, the concept of "shall be consistent with", and how the policy statements apply to specific proposals, please see the implementation guideline for "G - Interpretation and Implementation".

Wording of Policy

The policies of the Comprehensive Set of Policy Statements focus on the broad policy objective - the desired end result - with less emphasis on specific implementation approaches. The reasons for this approach are two-fold:

- to recognize local autonomy and accountability by giving the decision-maker and the municipality the ability to determine how best to meet applicable policy objectives in light of local circumstances and priorities; and
- to provide a measure of flexibility to recognize the broad range of circumstances across the province, while still ensuring that the policy objective is met.

Terms which have special meanings in specific policies are shown in italics in the body of the policy statements and defined later in the Definitions section. In cases where terms have a different meaning for the purposes of specific policy statements, the specific meaning of the term which applies in each case has been identified through the use of a subscript.

For instance, the word "development" appears in most of the policies in the Comprehensive Set of Policy Statements. In earlier drafts of the policy statements, only one definition was provided for the term. However, the application of that definition to all affected policies would have made the policies overly restrictive in some cases. In addition, different definitions of the term development were used in several of the policy statements which predated the Comprehensive Set of Policy Statements. Since it was the government's intention not to change the Wetlands and Floodplain Planning Policy Statements, the inclusion of their definitions was necessary. For this reason, four definitions of the term "development" were formulated and used in the policy statements.

For example, policy B7 includes the word "development₁". This means that the first definition of development in the Definitions section applies. Development₂, which was taken from the Wetlands Policy Statement, applies to the policies of goals A1 and A2. Development₃, which was taken from the Floodplain Planning Policy Statement, applies to the policies of goal A3. Development₄ applies to the policies of goal C, on housing.

It is noted that the definitions of development₂ and development₃ do not specifically mention lot creation, and that none of the definitions of development mention official plan designations. However, the emphasis of the new planning system is on the adoption and approval of official plans which establish the principle of development, rather than on an a development-driven system. No matter which definition of development is used, decisions on official plans, lot

creation and rezoning should be made so that decisions on proposed development will be consistent with the policy statements. The list of matters which have been specifically excluded from the definition of development should be read together with the applicable definitions of development.

Where italics are not used, the dictionary definition of the term applies. In cases where more flexibility in application is suggested, words such as "should" and "are encouraged to" have been used. Where less flexibility is implied, words such as "will" and "may only" have been used.

3. Implementation Guidelines

To address questions which may arise from time to time on the rationale for a specific policy, on the government's interpretation of the policy, or on implementation approaches which would be consistent with the policy statements, the province issued these implementation guidelines to assist planning jurisdictions in making decisions which are consistent with policy statements. These guidelines were developed in consultation with a wide variety of stakeholders who have an interest in land use planning. **The guidelines are advisory.** They provide information to assist in the understanding of the policies and illustrate some approaches which have been determined to be consistent with the policy statements. More information on the status of guidelines is included in the guideline for section G of the policy statements.

Structure

The order of the guidelines match the structure of the policy statements. For example, the guidelines which apply to the policies of goal B appear numerically in the goal B section of the guidelines. All policies are to be read together, and all related guidelines are to be read together. To avoid duplication in cases where one or more policies are directly related, cross references to other applicable sections of the guideline have been provided.

The guideline for each policy is divided into two sections: Introduction; and Policy Explanation and Implementation.

The Introduction contains information on the rationale and background for the policy, and, where more than one issue is covered, on how the policies fit together in support of the goal statement.

The section on Policy Explanation and Implementation provides information on the meaning of the policies, and gives advice on possible ways these policies could be addressed in planning documents and decisions on planning matters. It is hoped that the policy statements will be reflected in official plans as quickly as possible. However, to deal with the interim period, the implementation guidelines offer advice on applying the policies to site-specific planning applications.

The guidelines have been written for the use of everyone who may have an interest in the

topic, including planners, elected officials, staff of provincial ministries, the public, and development proponents.

Information which may help in the formulation of required technical or background studies generally has not been included in the body of the guidelines, but is to be found in the related information section appended to specific guidelines, or in separate technical guidelines or manuals. This related technical information has been cross referenced in the body of the guideline.

It is intended that this information be used as a guide by the proponent, the municipality or other participants in preparing background studies in support of official plans or development applications and by the approval authority in determining whether the information is adequate. However, as with the rest of the information in the guidelines, this information illustrates "best practices". As long as there is no conflict with related legislation, or other provincial policies, other approaches which achieve the same end result may also be considered by the approval authority.

Updates

These guidelines represent the most up-to-date information available at the time of publication. The guidelines will be refined and revised over the next year as appropriate.

How To Get More Help

The approval authority should be contacted as a first step for questions on process or policy content. However, there may be situations where technical or more detailed information is required. The guidelines identify the ministry responsible for the preparation of individual components and indicate where more information on the policy can be obtained.

NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Water Quantity and Quality

Implementation Guideline for Policies A1.1 and 1.4

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local Regional Office of the Ministry of Environment and Energy.

TABLE OF CONTENTS

1	Introduction	1
	1.1 Purpose	1
	1.2 Rationale	1
	1.3 Objectives	2
	1.4 Interpretation	2
	1.5 Relationship of Policy A1.1 to Goal A1 and Policy A1.4	3
2	Policy Explanation and Implementation	6
	2.1 Policy Explanation	6
	2.1.1 Water Quality and Quantity	6
	2.1.2 Sensitive Water Quality and Quantity Areas	18
	2.2 Implementation	29
	2.2.1 Protecting Water at a Broad Planning Scale	29
	2.2.2 Protecting Water at the Site-Specific Planning Stage	33
	Appendix	
A	Additional Sources of Information on Water Quantity and Quality	37
A1	MOEE Policy Manual Guidelines, Part B: Water Guidelines	37
A2	MOEE Technical Guidelines	38
A3	MOEE Guidelines and Information Papers	38
A4	MOEE Ground Water Data Reports	38

1

INTRODUCTION

1.1

Purpose

This implementation guideline is intended to assist municipalities in making informed decisions, with respect to development that may affect water quality and quantity, consistent with policies A1.1 and 1.4 of goal A1 of the Comprehensive Set of Policy Statements, issued under section 3 of the *Planning Act*. This guideline describes the goal and policies for the protection, preservation, restoration and management of water quality and quantity. It outlines principles and possible implementation approaches which are consistent with goal A1 of the policies, that is:

"To protect the quality and integrity of ecosystems, including air, water, land and biota; and, where quality and quantity have been diminished, to encourage restoration and remediation to healthy conditions."

1.2

Rationale

The protection, conservation, enhancement and sustainability of ground and surface water resources and the security of water supply are matters of provincial interest. The most effective way to achieve this interest is to incorporate a proactive and preventative approach when considering the formulation of land use policies and planning decisions which affect water quality and quantity. The principles of protecting, conserving, enhancing and sustaining ground and surface water quality and quantity should be incorporated into planning policies and considered when making land use decisions. These principles are based on the recognition that water resources have a finite capacity to support development.

The MOEE's legislative authority is established in part within the *Ontario Water Resources Act* (OWRA), the *Environmental Protection Act* (EPA), the *Environmental Assessment Act* (EAA), the *Pesticides Act* (PA) and the *Niagara Escarpment Planning and Development Act* (NEPDA). The OWRA gives MOEE authority to regulate water supply, sewage disposal and the control of water pollution and water taking permits over all surface and ground waters in Ontario. The EPA controls the discharge of contaminants to the natural environment, including water, either through prohibition or through regulation. This legislation provides the basis for a proactive and preventative strategy for protecting water resources within an ecological context.

1.3

Objectives

This guideline has the following objectives:

- encourage the establishment of municipal environmental objectives within an ecosystem context and to reflect those objectives in planning decisions;
- prevent the degradation of water resources as a key priority;
- protect water resources on a watershed basis as a fundamental foundation for official plan preparation; and
- encourage the development of official plan policy which incorporates consideration for the protection, preservation, and sustainability of water on a watershed basis.

1.4

Interpretation

While the Ministry maintains jurisdiction and legislative authority under the OWRA and the EPA for water quality and quantity, a municipality is not precluded from considering more restrictive procedures and practices to safeguard water resources. Municipalities may adopt more restrictive or protective methods for ensuring the quality and supply of ground and surface water for municipal purposes which reflect local circumstances through their planning policies and practices.

Importance of Protecting Water Resources

Water is a natural feature essential to life. The characteristics and functions of water in the hydrologic cycle (see Figure 1) underline the importance of understanding how it moves and exists in larger systems. Protection of water quality and quantity is important to ensure a sustainable source of water for human consumption and livestock consumption; for sustaining terrestrial and aquatic biota; and for industrial, agricultural, domestic and recreational uses. By undertaking a preventative approach through planning to protect water quality and quantity, the resource can be sustained for present and future uses. Through the lessons of the past it has become apparent that preventing water degradation is more cost effective than relying on measures to react to problems once they have occurred. Preventing the degradation of a ground water drinking supply, as an example, is more beneficial than relying on expensive treatment technologies or water pipelines. The social, environmental and financial costs associated with rehabilitation and remediation to correct problems outweighs those associated with a preventative approach.

1.5

Relationship of Policy A1.1 to Goal A1 and Policy A1.4

This implementation guideline provides an interpretation of policy A1.1 within the context of goal A1, and policies A1.4, A1.2 and A1.3. Water quality, quantity and ground/surface water interactions are fundamental to the structure, composition and function of natural features and the health of ecosystems. The relationship of water and ecosystems is reflected in policy statements under A: Natural Heritage, Environmental Protection and Hazard Policies. Goal A1 is:

"To protect the quality and integrity of ecosystems, including air, water, land and biota; and, where quality and quantity have been diminished, to encourage restoration or remediation to healthy conditions.

In support of this goal, policy A1.1 states that:

*Development*_{1,2,3,4} may be permitted only if the *quantity and quality of ground water* and surface water are protected. *Development*_{1,2,3,4} that will negatively impact on *ground water recharge areas, head-waters* and aquifers which have been identified as sensitive areas will not be permitted."

Policy A1.4 also supports goal A1, and its intent is directly tied to policy A1.1. Policy A1.4 states that:

"In decisions regarding *development*₂, every reasonable opportunity should be taken to: maintain the quality of air, land, water and *biota*; maintain *biodiversity* compatible with indigenous natural systems; and protect natural links and *corridors*. The improvement and enhancement of these features and systems is encouraged."

2

POLICY

Explanation and Implementation

2.1

Policy Explanation

2.1.1

Water Quality and Quantity

The first part of policy A1.1 states that:

Development_{1,2,3,4} may be permitted only if the quantity and quality of ground water and surface water are protected."

For the purposes of this implementation guideline, protection of the quality and quantity of ground and surface water is defined through the existing goals, policies, guidelines, and procedures **that support current provincial environmental legislation and regulations**. It is recommended that the principles that form the basis for meeting environmental legislative requirements be adopted by municipalities and be considered when making planning decisions.

Water quality and quantity can best be protected from the effects of development if consideration is given at the time the principle of development is being decided and includes consideration of cumulative impacts (i.e., during official plan preparation). It is recognized that there is a strong correlation between human activities and degradation of water resources (see Table 1 and 2, and Figure 1). Individual components of the hydrologic cycle depend on certain natural features and conditions in which to function without degradation. These features and ultimately their functions are affected by various activities which demonstrate their effects through a series of consequences on the features.

Human activities and the degradation of water resources ultimately leads to the degradation of natural features, functions and aquatic life (as described in the implementation guidelines to policies A1.2, A1.3 and A2; see also Table 2).

TABLE 1: HUMAN ACTIVITY AND WATER DEGRADATION

Hydrologic Cycle Components	Depends On	Affected By	Effects	Potential Consequences
Interception Depression Storage	Vegetation density Topography Poor drainage	Vegetation clearing Level grading Drainage Improvements Tillage	More frequent surface run-off More volume to surface runoff	More frequent streamflow fluctuations More extreme streamflow fluctuations
Infiltration	Coarse soils Opportunity (i.e., depression storage)	Pavement Drainage Improvements	More volume to surface runoff Less volume to groundwater	More extreme streamflow fluctuations Lower groundwater tables
Transpiration	Vegetation	Vegetation clearing	Reduced air quality	Impacts on people Greenhouse effect
Groundwater Quality	Soluble contaminants in rain Contaminants on ground surface when water infiltrates Spilled contaminants soaking into ground Contaminants stored underground	Industry Manure storage and spreading Pet litter Sludge spreading Chemical dumping (e.g., Motor oil Fertilizers and pesticides Heavy metals from engine exhaust	Acid rain Contaminated water supply	Reduced vegetation Costs associated with alternative water supply securement (e.g., trucking)
Percolation	Coarse soils	Groundwater interference allowing horizontal discharge movement Tile drainage Extraction	Redirected groundwater Changes in water Less water to deep groundwater Less groundwater stored	Changes to aquatic habitat Changes to wetlands
Groundwater Discharge to Streams	Amount of groundwater Soil stratigraphy Topography	Infiltration Percolation	Increase in groundwater to stream May increase quality	Higher quality stream would support more diverse species

Surface Runoff	Amount of water not trapped or infiltrated Topography Fine soils Vegetation density Drainage Quality of water discharged from ground	Level grading Pavement Tree clearing Improved drainage Soil compaction Filtering effect of soils (i.e., non-solubles trapped in soil)	More frequent surface runoff More surface runoff volume	Redirection of water Changes in chemical form
Surface Water Quality	Soluble contaminants in rain Contaminants on ground surface when water runs off Soil erosion Contaminants attached to soil particles in runoff water Vegetation cover trapping soil and particulates	Industry Manure storage and spreading Pet litter Sludge spreading Chemical dumping Vegetation cover Slope of bared soil Fertilizers and pesticides Heavy metals from engine exhaust Vegetation clearing Pavement Direct storm sewerage Combined sewer overflows Acid rain Tillage	Temperature Contaminants	Increased sediment content due to erosion
Channel Flow (Transmission)	Channel density Topography/slope Channel size and shape (depth and velocity) Floodplain relief Floodplain storage	Municipal drainage works Storm sewerage Stream works Erosion due to flow increases Filling or construction in the floodplain	Channels are removed from their floodplain Channel erosion increased flows downstream	On-going erosion Tremendous channel energy
River Flow	Control dams Rural land use Channel form in less natural systems	Controls	Low flow is augmented	Channel floodplain forming
Stream Water Quality	Land use	Urban development Stormwater control Farming practices	Sedimentation	Destruction of habitat
Flow Management	Controls (i.e., dams)			

TABLE 2: Land Use Change and Environmental Impacts

Many kinds of land use change can lead to environmental degradation. Changes include:

- urban development;
- construction activity;
- increased water pollution control plant discharges;
- changes in agricultural runoff;
- solid waste disposal;
- sewage disposal through septic systems in rural areas;
- water taking, including drinking water supply from ground water sources;
- aggregate extraction and quarrying of bedrock;
- other activities including: atmospheric fallout; industrial spills; direct industrial discharges; specific land uses such as golf courses and other recreational activities in valley lands; channelization of head-water streams; and automobile/vehicular traffic.

Major Stream Impacts that can be Caused by Urbanization:

1) Changes in Urban Stream Hydrology

- Increase in Magnitude and Frequency of Severe Floods
- Increased Frequency of Erosive Bankfull Floods
- Increase in Annual Volume of Surface Runoff
- More Rapid Stream Velocities
- Decrease in Dry-Weather Baseflow on Stream

2) Changes in Urban Stream Morphology

- Stream Channel Widening and Downcutting
- Increased Streambank Erosion
- Shifting Bars of Coarse-Grained Sediments
- Elimination of Pool/Riffle Structure
- Imbedding of Stream Sediments

- Stream Relocation/Enclosure or Channelization
- Stream Crossing from Fish Barriers

3) Changes in Urban Stream Water Quality

- Massive Pulse of Sediment During Construction Stage
- Increased Washoff of Pollutants
- Nutrient Enrichment Leads to Benthic Algal Growth
- Bacterial Contamination During Dry and Wet Weather
- Increase in Organic Carbon Loads
- Higher Levels of Toxics, Trace Metals and Hydrocarbons
- Water Temperature Increase
- Trash/Debris Jams

4) Changes in Stream Habitat and Ecology

- Shift from External to Internal Stream Production
- Reduction in Diversity of Aquatic Insects
- Reduction in Diversity and Abundance of Fish
- Destruction of Wetlands, Riparian Buffers and Springs

(Table 2 was adapted from:

Schueler, T.R., 1992. Mitigating the Adverse Impacts of Urbanization on Streams: A Comprehensive Strategy for Local Government. In *Implementation of Pollution Control Measures for Urban Stormwater Runoff*. Editors: W.J. Snodgrass and J. P-ng. Ministry of Environment and Energy.)

Specific studies and best management practices (BMPs), at the site-specific development stage, can minimize the impact of development on water quality and quantity, but it is recognized that the cumulative effect of a number of developments can degrade water to unacceptable levels. Consideration of all these potential impacts during the formulation of planning policy forms the basis for a preventative approach.

Unacceptable water quality and quantity not only limits the ability of water to sustain existing human and aquatic uses, but also limits further development. If water quality has already been degraded to the point that it no longer meets minimum standards for quality, then future development may not be able to be accommodated. In such a circumstance, further development may further reduce water quality and quantity below minimum standards, thereby contravening environmental legislation.

From a site-specific perspective, cumulative effects are difficult to measure, estimate or predict. This does not however preclude the fact that cumulative effects occur and are evident in the quality of water and in the degradation of natural features that are dependent upon both water quality and quantity. It is for these reasons that the ability to protect water at the site-specific development stage in planning is limited and often insufficient to protect valued natural features and aquatic life because cumulative impacts are not considered. The earliest point in the planning process, official plan preparation, is the most effective time to consider environmental information, such as cumulative effects, and thereby ensure water protection. The consideration of environmental information together with other information being used to establish the principle(s) of development is fundamental to the protection and use of water resources. In arriving at decisions regarding the principle of development, municipalities should consider the provincial policies, guidelines and principles for water management and protection.

The general principles outlined below have their basis in provincial environmental legislation. The Ministry of Environment and Energy document *Water Management: Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, July 1994* (commonly referred to as the "Blue Book"), should be referred to for an explanation of the provincial goals, policies, guidelines, objectives and regulatory framework for water quality and quantity.

General principles for the protection of water quality and quantity are:

- The importance of the interrelationships between surface and ground water be recognized and the use of reasonable and practical measures be adopted to conserve the quantity and quality of surface and ground water; and,
- A preventative, proactive approach to protecting water should be adopted rather than relying on "end-of-pipe" quality control. Using best management practices and water conservation measures proactively to achieve the best water quality possible is preferable to

only striving to meet minimum standards; and,

- Water quality be protected, conserved or restored to permit the greatest number of uses, based on the best interest of the people of Ontario. Water which meets the water quality criteria for aquatic life and recreation will, in most cases, be suitable for other surface water uses; and
- Water quantity be managed to ensure a fair sharing of the available water to protect both existing human and non-human uses of the water. The use of reasonable and practical measures should be taken in conserving the quantity of water in order to maximize its availability for existing or potential beneficial uses; and
- Ground water quantity be recognized as an essential component of streamflow and that the features and functions of ground water recharge, transport and discharge be recognized as a key components of water management and the protection of natural systems; and
- Hydrological processes should be maintained in as natural a state as possible; and
- Ground water recharge areas, aquifers, and head-waters be identified and maintained to protect water quality and quantity, and the natural features which depend upon water; and
- Provincial Water Quality Objectives (PWQOs) and Provincial Water Quality Guidelines (PWQGs) should be used for guidance in making decisions on health, viability and sustainability of waters so that water quality is not degraded. Meeting Provincial Water Quality Objectives is a minimum requirement; and
- In areas where water quality does not meet Provincial Water Quality Objectives and Guidelines:
 - the water will not be degraded further and all practical measures shall be taken to upgrade water quality to the Objectives; and
 - where new or expanded discharges are proposed, no further degradation will be permitted and all practical measures shall be undertaken to upgrade water quality; and
- Water for drinking and other domestic uses be safe and aesthetically pleasing; and be free from pathogenic organisms, and from hazardous levels of chemical and radioactive substances. Other aspects, such as corrosivity, tendency to form encrustations, and excessive soap consumption due to hardness be controlled through the use of treatment, as these aspects can interfere with the intended domestic use of the water. The costs of the required water treatment should be taken into consideration in deciding whether use of water supply treatment is economically realistic on an individual lot basis, or whether water should be treated at a centralised plant for distribution to domestic and other users; and,

- Recognition be given to the significance of and need for control of non-point sources of pollution from contaminant input effects on water quality.

Implementing these principles together with those in the implementation guidelines for A1.2, A1.3 and A2 in an integrated manner on a broad planning scale (i.e., official plan preparation rather than site-specific application for a plan of subdivision) can form the basis for defining and protecting natural systems, thereby protecting water quality and quantity (see also section 2.1.2).

Importance of Establishing Protection of Water Resources at the Broad Planning Scale through Official Plan Preparation

It is at the official plan level that decisions regarding the principle of development can be made in an informed manner that can better protect water and thus protect valued natural features. Informed decisions at the time of official plan preparation require a general knowledge of the state of the environment within and surrounding a municipality and an understanding of what environmental features and functions are valued and should be protected by the municipality through official plan policy. The Ministry of Environment and Energy, Ministry of Natural Resources, and conservation authorities have data and information which municipalities can adopt for the purposes of official plan preparation. Cooperative approaches between municipalities and provincial agencies are encouraged for sharing existing information and expertise.

The assessment of environmental information for consideration in the preparation of official plan policy may include:

- Information that could lead to the protection, maintenance and enhancement of surface and ground water quality and quantity based on evaluating water resources, specifically:
 - identification of lakes, rivers and streams in the context of individual ecosystems;
 - identification for the purposes of maintaining and enhancing natural watercourses those which serve as wildlife corridors;
 - identification of associated streams, lakes and setback areas, which may be components necessary to protect natural systems, and their placement in appropriate restrictive designations and zones. These provisions would have the effect of prohibiting the placement or removal of fill, buildings and structures, except those structures required for erosion and sedimentation control, and conservation purposes;
 - establishment of control of discharges to surface and ground water. Every effort should be made to prevent the discharge of untreated sewage and contaminated stormwater runoff/land drainage to receiving water bodies. Municipalities should look to adopt by-laws to control waste discharges to municipal sewers, such as the Model Sewer Use

By-law. Natural infiltration of water should be maximized, however in some cases the artificial recharge of ground water with these discharges may be an appropriate conservation measure. Best Management Practices should be encouraged for new, and where possible, existing development.

- evaluation of potential impacts of development on water quality/quantity to be addressed through the establishment of targets for water quality and quantity;
 - identification of sensitive surface water and ground water features and functions and development of appropriate protection measures;
 - adoption of water conservation practices that identify appropriate water conservation measures, development of water budgets for ground water aquifers, and encouragement of innovative municipal standards such as the use of cisterns and water efficient plumbing fixtures;
 - identification of shorelines and inland lakes for management by identifying and setting development capacities; and
 - conduct of stormwater management, servicing and hydrogeological studies in such a manner that recommendations from one do not contradict another. By looking at these studies in a coordinated manner the minimal disturbance of a site can be achieved while accommodating the most appropriate and effective servicing systems (i.e., stormwater and septs).
- Investigation of partnerships between municipalities to initiate and encourage joint planning to ensure that water quality and quantity goals and objectives for watersheds are achieved across municipal boundaries.
 - Conduct of municipal monitoring on an initial, and then ongoing, basis as a means to evaluate whether water quality and quantity goals and objectives are being achieved. Many government agencies currently carry out a number of environmental monitoring activities, the data from which municipalities can adopt or augment for planning purposes.
 - Development and support of water quality and quantity targets. Proposed changes in land use should address potential impacts on the quality and quantity of water and related resources by:
 - ensuring that natural hydrological characteristics are maintained, and where possible enhanced, to protect baseflow of watercourses;
 - ensuring that storage levels in lakes are maintained, and where possible, enhanced or restored;

-
- ensuring that streams are adequately protected during low flow conditions;
 - requiring the development and monitoring of water budgets for aquifers to protect and properly manage the ground water supply;
 - ensuring that fish and wildlife habitat is protected, and where possible, enhanced or restored;
 - ensuring that water quality (measured by indicators which would include, among others, temperature, turbidity, bacteria, dissolved oxygen, nutrient concentrations) is maintained or enhanced;
 - ensuring that alterations to natural drainage systems are either prohibited or at least minimized by maximizing the retention of natural vegetation and maintaining vegetative buffer strips along watercourses and beside waterbodies, and by leaving stream channels in their natural form;
 - ensuring that sediment input to streams and lakes is minimized to the greatest degree practicable; and
 - ensuring that proposed development will not result in increased flooding or erosion which could cause potential adverse effects on the receiving waters or lands.
- Identification and delineation of important hydrogeological areas. Where recharge/discharge areas and head-waters exist, the official plan should include policies to afford them protection from potential sources of contamination. Special precautions are required to ensure that a change in land use enhances or does not further impair the recharge capacity of the site or the quality of water travelling to water courses or aquifers which may be an existing or future source of public water supply. In unserved areas, this involves requiring development proposals to undergo hydrogeological site assessments to determine whether an adequate supply of potable water is available, confirm the suitability of the area for on-site sewage systems and in some cases assess measures for potential well head protection.
 - Assembly and integration of maps or schedules identifying surface water and ground water features including lakes, rivers, streams, head-waters, aquifers, recharge areas, and shoreline.

- Evaluation of any Shoreline Management Plans, which may include the setting of development capacities for lakes. After reviewing, assessing and establishing a sustainable level of development, the municipality should state in its official plan the maximum permissible number of lots allowed on each lake within a watershed. Moreover, the distribution of these lots among municipalities sharing the lake system shoreline should be established. Protection practices could include setbacks and protection of vegetation cover within the setbacks.

Other Sources of Ecological Information for Consideration in Planning

Recent municipal actions towards incorporating environmental issues into official plan policy have been initiated through official plan background studies. The official plan should be used to integrate the conclusions of environmental studies with the planning process. Environmental advisory committees, and round tables on environment and economy are useful for providing multi-sectoral advice on ecological and sustainable development practices/issues to municipal councils.

Environmental studies that can act as background information to official plan preparation can focus on such matters as water resources, greenland strategies and environmental vision statements. Specifically, the following initiatives can act as sources of information in the development of official plan policies:

- Programs to protect, clean up, rehabilitate and enhance natural water-related ecosystems in cooperation with appropriate agencies, e.g., Remedial Action Plans (RAPs), Clean-Up Rural Beaches (CURB) Program, Habitat Canada, Community Fisheries Involvement Program, Community Wildlife Involvement Program, etc.;
- State of the Environment reports, which can be used as a basis for assessing specific or overall environmental conditions within a municipality;
- Multi-year sewage and water servicing plans, which can provide information regarding the existing and projected state of water supply and wastewater treatment.

The information gathered above should be considered in a comprehensive manner within an ecosystem context.

Protecting Water within an Ecosystem Context

As recognized in goal A1 and policy A1.4, natural features and functions are interrelated ecologically and exist holistically as ecosystems. Through analysis of these interrelationships, an understanding of the ecosystems may be obtained, and their "health" can then be determined. By

considering information on the health and interrelationships of ecosystems in the preparation of official plans, water quality and quantity and natural features and functions can better be protected.

Planning within an ecological context involves the gathering of environmental information. This information is used to determine biophysical boundaries and interrelationships and to define and understand ecosystem linkages (dependencies and interdependencies). Depending upon the media used (air, water, land, biota), the ecosystem can be defined within biophysical boundaries along with appropriate objectives for the ecosystem's protection. This information then can be used to ensure that appropriate environmental objectives are incorporated into decision making related to planning, and by monitoring ecosystem health ensure that the objectives are met.

Municipalities prepare and develop official plan policy based on the consideration of many types of studies and information collected to prepare their official plans. The information base and ultimate policies expressed in official plans should recognize natural features and functions and reflect the basis on which these natural resources will be protected.

The following interrelated components define a process for planning within an ecosystem context as they relate to water. This process can provide environmental information and guidance for consideration in preparing official plan policy:

- Boundaries for planning purposes be considered on the basis of watershed/subwatershed or ecosystem boundaries;
- Note: This clearly may extend past municipal boundaries or be bounded between municipalities. It recognizes that some inter-municipal decisions are necessary and it may be necessary for adjacent municipalities to work cooperatively;
- Clearly articulated environmental goals, objectives and targets be established that can be realistically obtained through planning;
 - Ecological information be collected and managed on a large scale (greater than site-specific) basis;
 - Ecosystem health be monitored on an ongoing basis; and
 - Cumulative environmental effects be assessed by monitoring the impact of development on the environment against established environmental goals, and in the event that the goals are not met, correct problems to meet the goals.

An official plan can be used to clearly articulate how planning instruments such as official plan amendments, secondary plans, subdivision planning, zoning by-laws and site plan controls will be used to achieve environmental objectives and targets. A more detailed description of the kinds of information that can be investigated in developing integrated ecological objectives is provided in

section 2.1.2.

Planning for Water Resources on a Watershed Basis: A Strategy for Incorporating Ecosystem Considerations Into the Planning Process

The ecosystem unit commonly recommended for consideration of water resources in planning at the municipal level is the watershed or subwatershed. A watershed is the geographic drainage basin in which water, sediment, and dissolved materials drain to a common outlet. The cause and solutions for water degradation are not to be found by considering only water; it is usually the management of all the media within the entire watershed that ensures the protection of water resources. Since conservation authorities are responsible for drainage basins, and one or more municipalities may occupy a drainage basin, it is recommended that municipalities work together with conservation authorities (CAs)(where they exist), the Ministry of Natural Resources (MNR), the Ministry of Municipal Affairs, the Ministry of Agriculture, Food and Rural Affairs and the Ministry of Environment and Energy.

MOEE and MNR jointly recommend that the most appropriate means of planning for the protection of water resources in an ecosystem context is on a watershed basis. Municipalities which share a watershed should participate in the development of common watershed objectives and policies for the protection and maintenance of biophysical characteristics found in the watershed. Each municipality can then reflect the shared interest and responsibility for the watershed in their official plans. Moreover, the information resulting from this joint exercise can be used as a basis for the preparation or revision of official plans. Studies on a subwatershed basis can be used to provide more specific direction on how to achieve the goals and objectives of the watershed and provide information useful at the secondary and site-specific development stage of planning.

2.1.2

Sensitive Water Quality and Quantity Areas

The second part of policy A1.1 states that:

"Development_{1,2,3,4} that will negatively impact on ground water recharge areas, head-waters and aquifers which have been identified as sensitive areas will not be permitted."

For the purposes of this implementation guideline, the role of ground water recharge areas, headwaters and aquifers are recognized as key components in the functioning of the hydrologic (water) cycle. The identification of areas associated with sensitive water systems, and the recognition of their inherent connectivity and sensitivity to development, must be considered in official plan preparation and approval of site-specific development in order to protect water quality and quantity.

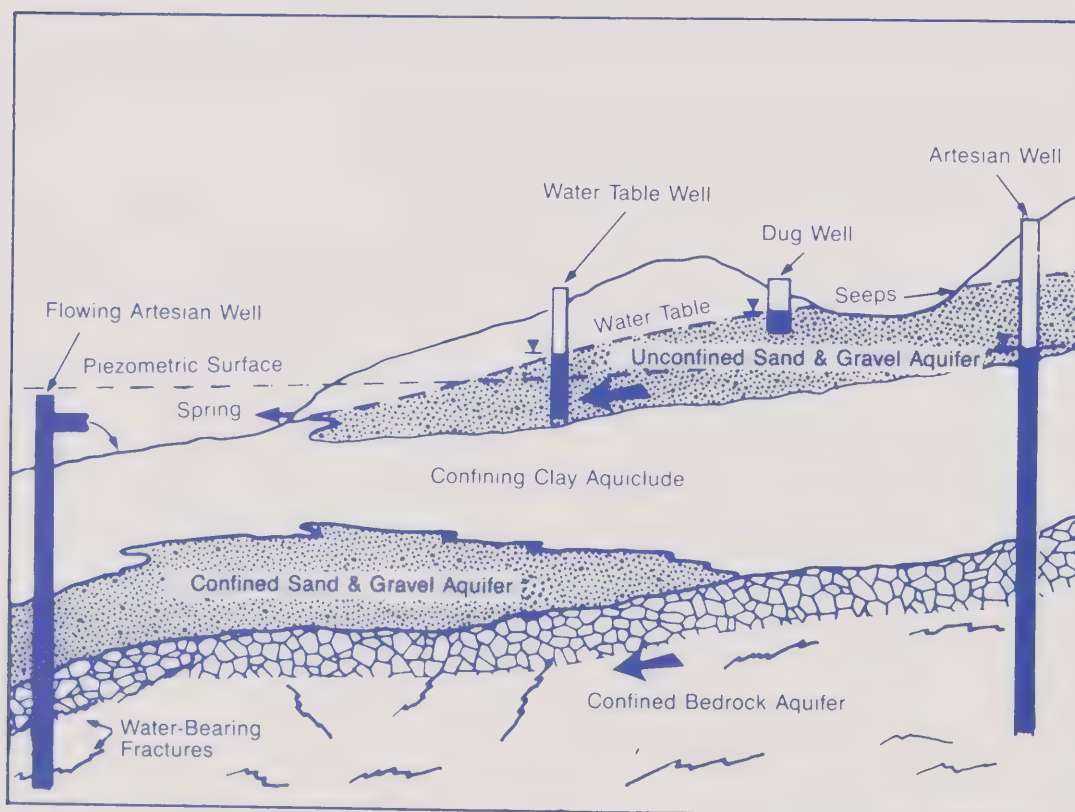
As part of official plan preparation, municipalities are expected to identify areas associated with sensitive water systems based on an evaluation of the existing hydrologic environment. Such an evaluation should incorporate the values and needs associated with the hydrologic environment including natural systems and human uses that are dependent on the hydrologic environment. The water quality and quantity sensitivity of an area can be described based on the use and/or potential use (human and non-human) of the water resource, or on the basis of the natural conditions of the area (e.g., geologic formations, yield or flow). The principles that define water quality and quantity generally (as described in section 2.1.1 of this guideline) equally define water quality and quantity associated with water systems. MOEE, MNR and CAs and other agencies have information to assist municipalities in the identification of hydrologically sensitive areas as part of official plan preparation and site-specific development review.

Water quality and quantity has to be considered within the context of a dynamic system commonly referred to as the "hydrologic cycle" (see Figure 2). Within this system, it must be recognized that water exists in different forms, moves through various media and serves various beneficial roles. The features within which water exists and sustains, and the functions it performs, are all connected and interdependent. Therefore, water quality and quantity cannot be protected through the preservation of individual water-related features in isolation of the role of water in the hydrologic cycle.

Figure 2



Hydrologic Cycle



Water-Bearing Formations

What is the Hydrologic Cycle?

The hydrologic cycle describes the movement of water. Water evaporates from surface water bodies such as oceans, lakes, ponds, rivers, and streams and transpires from plant life into the atmosphere. Water falls to the earth from the atmosphere as rain and snow and gravity pulls water down into the ground, or causes it to flow over the ground directly into surface water bodies.

The main factors that determine whether water enters the ground to become ground water or runs off to become surface water is the ability of the ground to absorb water and the amount of water already in the ground. In the same way water enters a sponge, water percolates into the earth. If the soil and underlying geology are very porous or permeable, water will readily enter the earth to fill the air spaces between the grains of soil and rock. Ground with large grain sizes (e.g., gravels) and fractured bedrock (e.g., fractured limestone) has many and large air spaces for water to flow through and fill. In ground that has small grain sizes and small air spaces (e.g., clays), it is difficult for water to flow through the small air spaces. For solid bedrock there is little opportunity for water to percolate into the ground. If the ground is not very porous or the air spaces in the ground are already filled with water (saturated), the water will flow along the ground surface by gravity to form or augment surface water bodies.

When water percolates into the ground, it travels through the unsaturated zone in the upper part of the ground where the pore spaces are filled with air and water (if the ground is not completely saturated) toward the saturated zone. In the saturated zone all the pore spaces are filled with water. The line that forms the border between the unsaturated zone and saturated zone is called the water table. The water table fluctuates seasonally up and down dependent on the percolation of precipitation from the surface.

Aquifers

Underground saturated geological formations that yield usable water or represent an important water source are called aquifers. The minimum water content or measure of importance necessary to qualify a geological formation as an aquifer is a relative concept depending on the relative availability of water supply in the region or the relative importance of the geologic formation as a water source. The ability of a geologic formation to yield water for water supply is dependent on its porosity and permeability. Porosity is a measure of the air (pore) space in the ground. Permeability describes the degree to which the air spaces are connected such that water can flow from one air space to another. The significance of permeability can be illustrated by comparing clay to gravel. Clay and gravel can have the same porosity, but because clay has less connectivity of air spaces (low permeability), water does not flow as freely through clay as through gravel. As a result of this relative characteristic, clay can be generally referred to as an impermeable material and gravel referred to as a permeable material. Aquifers can be generally described as saturated

geological formations with high porosity and high permeability. Geological formations with low permeability are referred to as aquitards or aquicludes.

Geological formations can lie within the subsurface in alternating layers of permeable and impermeable material, which can lead to different types of aquifers. An unconfined aquifer is characterized by water that has percolated freely into the aquifer from the earth's surface through the unsaturated zone. This type of aquifer is prone to the direct impact of surface activity directly overlying the aquifer. A confined aquifer is separated from the direct flow of water from the surface directly overlying the aquifer by an aquitard (or aquiclude). The aquitard prevents water from the surface from percolating directly down into the confined aquifer. A confined aquifer can be threatened by land use activity at a great distance from the aquifer depending on the location of the recharge area for the aquifer. In order to protect the quality and quantity of water in the aquifer, the location of the recharge area must be determined and activities controlled to ensure aquifer protection.

Recharge and Discharge Areas

Recharge and discharge areas related to particular aquifers can be located at substantial distances from the saturated formations. A recharge area is any area of land allowing water to pass through it and into an aquifer. As characterized in the water cycle, water moves from recharge areas, through aquifers, and out through discharge areas. Discharge areas may take the form and/or be the sustaining source of water for springs, wetlands, marshes, ponds, streams, or lakes. The term head-water areas describes areas of land that are the source areas of streams. Important source areas for streams are usually where ground water is discharging. Discharge areas can occur throughout the watershed. Discharge areas may be an obvious surface expression, such as a spring, or may be more discrete, such as base flow to a stream or river. Discharge water is an important attribute of surface water and important for aquatic life. Discharging water can sustain the quantity of water in a stream or river in the summer season when there is less precipitation as well as moderate the water temperature at sustaining levels for aquatic life.

Ground water generally flows in response to gravity and pressure (hydraulic gradient) moving from points of high elevation and pressure to points of low elevation and pressure. Ground water flow does not necessarily correspond to surficial topography, but generally elevations over a large area may reflect the general direction. Ground water flow may not necessarily correspond to surface water drainage as described by watersheds and watershed boundaries.

Protection of Sensitive Water Systems

The protection of sensitive water systems requires an assessment and understanding of the hydrologic relationships discussed above in the preparation of official plan policy. Sensitive water

systems are important for the protection of water quality and quantity and the protection of valued water uses. Valued water uses can be identified as those valued by both human and/or non-human users. The most appropriate manner to identify and protect sensitive areas is through identification on official plan schedules, accompanied by official plan policies which define land uses and land use activities that will not compromise the sensitivity of these areas or their immediate surroundings.

Sensitive water systems can be generally described in two categories:

1. Sensitive Hydrological Features: surface features that are vulnerable to land or resource use change. Modifications to them can result in dramatic and often unforeseen changes to the quality or quantity of water resources. These features include:
 - lakes; and
 - depressions; and
 - wetlands and wetland complexes; and
 - head-waters; and
 - streams; and
 - source areas such as springs, seepage areas and drainage swales; and
 - individual or cumulatively significant recharge areas.

These features are areas of significant interchange between surface and subsurface water resources.

2. Sensitive Ground Water Recharge and Discharge Areas: areas that are very susceptible to water quality and/or quantity impairment due to a combination of hydrological features, functions or processes. These include:
 - areas of high infiltration or recharge to aquifer systems due to high elevation, porous soils or poorly developed surface drainage;
 - areas with high vulnerability to water quality degradation due to porous soils, or areas with sensitive surface water features such as lakes and wetlands; and
 - a concentration of source areas for streams.

In keeping with the principles for water protection, the intent of protecting water systems is to ensure that:

- changes in land or resource use do not degrade the quality or quantity of surface and subsurface water; and
- sensitive hydrological features for both surface and subsurface water resources are protected, or where possible enhanced; and
- hydrogeological processes are maintained in as natural a condition as possible; and
- water quality is maintained within acceptable parameters, as identified by the MOEE, MNR or CAs for human health or aquatic ecosystems; and
- water usage is limited to sustainable levels so as not to disrupt or diminish hydrogeological processes; and
- a continuing supply of clean, abundant water to subsurface storage areas, in amounts similar to those that would occur in as natural a state as possible is maintained; and
- any removal of water from subsurface storage for human use will be sustainable and will not degrade sensitive hydrological features, (i.e., identification of a "hydrologic water budget"); and
- the retention of natural vegetation cover is maximized to improve ground water recharge, maintain and if appropriate enhance stream base flow, and reduce existing or potential downstream flooding problems.

The identification of sensitive areas for the purposes of official plan policy (as it may limit development in order to protect sensitive water systems) should consider the following:

- The principles for protection of water quality and quantity as to water's sensitivity to supply, use, assimilative capacity, contamination, and its biota; and
- The protection of natural features and aquatic life as outlined in the implementation guidelines for policies A1.2, A1.3 and A2; and
- The provision of efficient sewage and water services as outlined in the implementation guideline for policy B7; and,
- The information assembled and used in establishing the environmental/ecological objectives of the municipality.

General characteristics that indicate that an area which is associated with the function of a sensitive system should be identified as sensitive:

- Recharge areas connected to an important existing or potential potable water supply aquifers;

- Aquifers that either provide or have the potential to provide a potable water supply or maintain a important natural baseflow;
- The water is at or does not meet the Provincial Water Quality Objectives and is therefore, at its assimilative capacity and no further degradation can occur;
- For ground water aquifers, where there is inherently low yield or susceptibility to contamination;
- Important natural features, aquatic habitat and sensitive aquatic life that may be impacted upon by degradation of water quality and quantity;
- Head-water areas, particularly in coldwater streams because of the stream's valued aquatic life, recreational benefits, and water supply potential.

Ontario ministries and agencies have, for some regions of the province, published data and mapping related to water features and functions. In all areas of the province there are sources of information, knowledge and expertise on water related issues. In addition to consulting with MOEE, Ministry of Natural Resources, conservation authorities and other local authorities, information related to water quality and quantity can be gained through:

- site visits,
- federal agencies such as Water Survey of Canada,
- examination of waterwell records,
- examination of topographic mapping,
- examination of soils, quaternary and geological mapping,
- examination of government publications on surface and ground water (see References),
- examination of any available municipal or private studies and/or literature on the area,
- Remediation Plans,
- sewage and water servicing plans,
- local industrial water users,
- information from the Provincial Water Quality Monitoring Network,
- test well information included in hydrogeologic reports for subdivision plans,
- local environmental or fish and game organizations,

- discussions with local health unit officials and municipal employees, and
- discussion with local well contractors.

Considering Water Systems in an Integrated Manner

The policies under goals A1 and A2 should be implemented in an integrated manner. The protection of water systems and the natural features which depend on water should be considered within the context of policy under the goals for A1 and A2. The following practices outline approaches to plan for the protection of water systems and natural features in an integrated manner:

- The form, function and features of the quality and quantity of ground water and surface water be protected through the establishment of proper land and resource use practices, with special regard to the sensitivities and requirements of the sensitive hydrological features. This can be accomplished by:
 - retaining or returning riparian lands adjacent to head-waters, streams, lakes and wetlands to a natural, self-sustaining vegetation cover including:
 - lands adjacent a stream, the shoreline of a lake or the edge of a wetland; and
 - in the case of a well-defined valley, the entire valley system including the channel, floodplain, valley wall and lands within the stable top of the valley wall as defined under policy A3.2 (Natural Hazards), and
 - retaining springs and seepage areas in an undisturbed, self-sustaining vegetative cover: and
 - generally retaining recharge areas in a natural form and in natural vegetation cover (except where modifications are proposed as part of a storm water management plan that demonstrates the recharge capabilities of these features will be maintained or enhanced); and
 - generally retaining swales in an undisturbed, self-sustaining vegetative cover (except where modifications are proposed as part of a stormwater management plan that demonstrate the infiltration and cleansing capabilities of the swale will be maintained or enhanced).
- Sensitive aquifer recharge and discharge areas be managed to:
 - maintain and where appropriate enhance infiltration rates as a requirement of any land or resource use change (providing that any contamination from deleterious substances can be addressed); and

- ensure the retention of self-sustaining vegetative cover to a minimum target level.
- The applicant of any land or resource use proposal demonstrate that the effects of the proposal on water resources can meet the intent of goals A.2 and A.3 in the context of the appropriate watershed or subwatershed unit, having regard for:
 - the need to maintain and, where appropriate, enhance the infiltration and water cleansing capabilities of the site; and
 - the need to maintain a minimum of lands within sensitive aquifer recharge and discharge areas; and
 - the need to protect sensitive hydrological features; and
 - the need to maintain as many steep slope areas as possible in a self-sustaining vegetative cover.
- Where more than one land or resource proposal is being considered, or a major planning study is under way within a watershed or subwatershed, decision makers should consider whether cumulative effects of existing uses, plus those of approved but yet unbuilt proposals, have been addressed; and
- The proponents of land or resource use change identify and adopt planning, siting and construction practices during both construction and post-construction phases to ensure:
 - negligible disruption or, where appropriate, enhancement of minimum base flow of streams or minimum storage levels of any lake or wetland in the area and, where reasonable, restoration of a stream corridor to as natural a state as possible; and
 - no disruption to the availability of water resources to users on or adjacent to the site; and
 - maintenance or enhancement of water quality to a natural, healthy state, using environmental, aesthetic and health-related parameters; and
 - minimization of sediments entering streams, lakes and wetlands and wetland complexes; and
 - prevention of the introduction of toxic, exotic or other deleterious species or substances; and
 - protection or, where appropriate, enhancement of existing fish and wildlife habitat (i.e., under Natural Heritage Policy A1.2 and Fish Habitat Policy A1.3); and

- that use of ground water will be on a sustainable basis, so that sensitive hydrological features are not adversely affected (i.e., water budget); and
- protection of human life and property from flooding and erosion hazards in accordance with applicable policies, (policies A3.1 - A3.5 inclusive).
- On lands containing artesian wells, proponents of land or resource use change should contact the MOEE or delegated authority, to confirm:
 - capping procedures required for the establishment of any new artesian wells; and
 - the best means of managing existing, flowing wells located on site.
- Municipalities, in cooperation with MNR, CAs and the MOEE, be encouraged to adopt water conservation strategies that promote wise use of and encourage diminishing per capita demand for this valuable and finite resource.
- Where a land or resource use proposal will result in the introduction of additional nutrients into the ground water, the applicant demonstrate that down-gradient users of the water resource will not be adversely affected.
- Where the manufacture, consumption, storage, distribution, or handling of toxic, corrosive, explosive or other similar deleterious substances is proposed, (such as occurs with some industrial uses, gas stations and truck-refuelling depots), applicants be encouraged to provide:
 - planning, siting, design, construction and operational practices that will be employed to prevent such substances from entering surface or subsurface water; and
 - an emergency spill-contingency plan that identifies reporting requirements and how accidental spillage or leakage will be responded to.
- Municipalities, in cooperation with the province, are encouraged to develop comprehensive aquifer management plans that protect and manage water resources and to investigate and monitor the impact of water withdrawal to ensure future availability of water on a sustainable basis.
- Municipalities be encouraged to continue to investigate and monitor ground water areas, identify existing water quality and quantity problems and seek long-term approaches that will rectify or lessen the effects of reduced quality and quantity of the ground water and surface water system.

2.2

Implementation

2.2.1

Protecting Water at a Broad Planning Scale

There are a number of important and recurring considerations associated with planning and the protection of water quality and quantity in an integrated manner. These considerations can be adopted universally by municipalities, to be implemented as common approaches for all planning decisions.

The Watershed and the Hydrologic Cycle as the Basis for Planning and Management of Water Systems

The watershed and subwatershed basins and the hydrologic cycle are the basis on which watershed systems are planned and managed to meet water management objectives. Where possible, the impact of land use changes or proposed developments be evaluated on the basis of their impacts on the watershed, subwatershed, and aquifer system, including upstream/downstream and cumulative effects of these changes.

Stream and Lake Conditions

Human-made changes to natural vegetation and natural processes in watersheds and subwatersheds have resulted in detrimental changes to stream and lake conditions. Detrimental changes can affect runoff, temperature, habitat, chemical and baseflow characteristics, which can adversely affect the hydrologic cycle and natural aquatic communities. Planning and planning decisions should have the result of preventing or mitigating such changes.

Maintaining Natural Watercourses

Streams and lakes and their adjacent riparian systems (e.g., floodplains, wetlands and valley slopes) provide essential natural functions and values to society. They are not just lands "left over" from other land use activities. Also, they all possess a form and function directly linked to the adjacent land surface and other components of the environment (e.g., land use, climate, bedrock, wildlife). In particular, they serve an essential role in maintaining water quality and quantity in streams and lakes.

All land use and natural resource management activities should maintain watershed systems such as head-water streams, watercourses, lakes and related riparian systems in a naturally functional and as undisturbed a state as possible. Attempts should also be made to restore the

functional character of water systems that have been degraded by previous land use activity.

Valuing the Resource

In making decisions about the treatment or removal of water from a site, water should be considered to be a valuable natural resource to be properly managed, rather than a by-product of land use changes. This involves managing the water as soon as it falls to the ground as opposed to trying to manage its quality and quantity as it leaves the site.

Best Management Practice

Best Management Practice (BMP) involves an attitude to the resource, a willingness to consider aspects of its welfare, as well as the best technology to accomplish this, where available. The best available technology economically achievable should be used to manage water resources in a way that maintains, and where possible enhances, the health of watershed systems. This includes improving stream, lake and aquifer conditions, and avoiding detrimental effects. Merely ensuring "no net decrease" in water quantity or quality is not an acceptable target, especially if conditions are already degraded, and if technology exists and can be applied to improve these conditions. However, it is wrong to assume that BMP solely comprises technological solutions, but rather, encompasses preventative mechanisms including information management and planning policy approaches.

Official Plans

A key mechanism for municipalities to protect water quality and quantity in planning decisions is through the adoption of official plan policies. To protect water quality and quantity, official plan policies and schedules should be adopted to outline how municipalities intend to protect water quality and quantity consistent with the Comprehensive Set of Policy Statements. In the preparation and/or the review of official plans, information from studies done on a subwatershed and watershed basis can be beneficial in developing policies for the protection of water resources. Such studies provide a means of assessing the whole water regime and understanding the interrelationship of the water regime to water dependent natural features and aquatic life. This information also provides valuable insights into not only the type of development that the water resources can support, but also how much development. Municipalities should consult with provincial agencies and establish cooperative approaches with provincial agencies for sharing information and expertise.

Once there is an understanding of the natural interrelationships and the resource's limitations, appropriate protection measures for water resources can be put in place (e.g., official plan policies, zoning by-laws) that will maintain water resources and sustain natural features and aquatic life.

Official Plan Policies

To protect water quality and quantity, municipalities should prepare official plan policies outlining how municipalities intend to protect water quality and quantity on the basis of the following:

- Municipal principles, goals and objectives for the protection, maintenance and enhancement of surface and ground water quality and quantity based on evaluating water resources on a watershed basis, specifically:
 - protection of lakes, rivers and streams as natural distinct ecosystems;
 - identification for the purposes of maintaining and enhancing watercourses which serve or could serve as wildlife corridors;
 - recognition of streams, lakes and associated setback areas, as components necessary to protect natural systems, and their placement in appropriate restrictive designations and zones. These provisions would have the effect of prohibiting the placement or removal of fill, buildings and structures, except those structures required for erosion and sedimentation control, and conservation purposes;
 - control of discharges to surface and ground water. Every effort should be made to prevent the discharge of untreated sewage and contaminated stormwater runoff/land drainage to receiving water bodies. Municipalities should adopt by-laws to control waste discharges to municipal sewers, such as the Model Sewer Use By-law. Natural infiltration of water should be maximized. However in some cases the artificial recharge of ground water with these discharges may be an appropriate conservation measure. Best Management Practices should be encouraged for new, and where possible, existing development;
 - establishment of water quality/quantity targets to provide a basis for addressing potential impacts of development on water quality and quantity;
 - identification of sensitive surface water and ground water features and functions and development of appropriate protection measures;
 - enhancement of water conservation practices. Municipalities should promote water conservation measures, develop water budgets for ground water aquifers, and encourage innovative municipal standards such as the use of cisterns and water efficient plumbing fixtures;
 - shoreline management including the setting of development capacities to protect inland lakes; and

-
- where septic systems are the only practical means of servicing, hydrogeological studies and stormwater management studies should be done as a coordinated effort to ensure that the recommendations of one do not compromise the recommendations of the other; the studies should also specify minimization of site disturbance to enable septic and stormwater systems to work effectively.
 - Partnerships among municipalities to initiate and encourage joint planning and ensure that water quality and quantity goals and objectives for watersheds are achieved across municipal boundaries.
 - Municipal monitoring on an ongoing basis to evaluate whether water quality and quantity goals and objectives are being achieved.
 - Development of water quality and quantity targets. Proposed changes in land use should address potential impacts on the quality and quantity of water and related resources by:
 - ensuring that natural hydrological characteristics are maintained, and where possible, enhanced to protect baseflow of watercourses;
 - ensuring that storage levels in lakes are maintained, and where possible, enhanced or restored;
 - ensuring that streams are adequately protected during low flow conditions;
 - requiring the development and monitoring of water budgets for aquifers to protect and properly manage the ground water supply;
 - ensuring that fish and wildlife habitat is protected and where possible, enhanced or restored;
 - ensuring that water quality (measured by indicators which would include, among others, temperature, turbidity, bacteria, dissolved oxygen, nutrient concentrations) is maintained or enhanced;
 - ensuring that alterations to natural drainage systems are either prohibited or at least minimized by maximizing the retention of natural vegetation and maintaining vegetative buffer strips along watercourses and beside waterbodies, and by leaving stream channels in their natural form;
 - ensuring that sediment input to streams and lakes is minimized to the greatest degree practicable; and
 - ensuring that proposed development does not result in increased flooding or erosion which could cause potential adverse effects on the receiving waters or lands.

- Maps or schedules identifying surface water and ground water features including lakes, rivers, streams, head-waters, aquifers, recharge areas, and shoreline.
- Identification and protection of important hydrogeological areas. Where recharge/discharge areas and head-waters exist the official plan should include policies to afford them protection from potential sources of contamination. Special precautions are required to ensure that a change in land use enhances or does not further impair the recharge capacity of the site or the quality of water travelling to water courses or aquifers which may be an existing or future source of public water supply. In unserved areas, this involves requiring development proposals to undergo hydrogeological site assessments to determine whether an adequate supply of potable water is available, confirm the suitability of the area for on-site sewage systems and in some cases assess measures for potential well head protection.
- Protection of lakes. Shoreline management plans, which include the setting of development capacities for lakes, should be required. After establishing a sustainable level of development, the municipality should state in its official plan the maximum permissible number of lots allowed on each lake within a watershed. Moreover, the distribution of these lots among municipalities sharing the lake system shoreline should be established. Protection practices could include appropriate setbacks based on local circumstances and the protection of vegetation cover within the setbacks.

2.2.2

Protecting Water at the Site-Specific Planning Stage

Site-specific development should embody the intent of environmental planning policies as espoused in the official plan. For the purposes of this guideline, protection of water quality and quantity at the site-specific planning stage is based on existing MOEE principles for water management as outlined above. These principles should be adopted by municipalities within an ecological context as the basis for protecting water in the review and approval of site-specific development applications.

As part of administering its responsibilities through the *Planning Act*, MOEE reviews site-specific development applications based on its legislated mandate under the *Environmental Protection Act* and *Ontario Water Resources Act*. To ensure that development proposals meet legislation requiring the protection of water quality and quantity, MOEE requires that certain studies be submitted for review demonstrating that water quality and quantity will be protected.

Information required for review of a site-specific development application to ensure the protection of water may include:

1. for Full Municipal Services, confirmation that uncommitted reserve water and wastewater plant capacity is available.
2. for Communal Sub-Surface Sewage or Individual On-Site Systems not in Close Proximity to a Waterbody, a hydrogeological study (see Note 1).
3. for Communal Sub-Surface Sewage or Individual On-Site Systems Near or Adjacent to a Waterbody, a surface impact/lake capacity assessment and a hydrogeological study (see Note 1).
4. for Communal or Individual wells for more than 5 residential lots/units or for non-residential development where water will be used for human consumption, a hydrogeological report (see Note 1).
5. for an Individual Surface Water Supply, a water supply assessment (quality/quantity) and MNR clearance.
6. for a Communal Surface Water Supply, an approval under section 34, *Ontario Water Resources Act*.
7. for Communal or Individual Sewage Services near or adjacent to a Waterbody, a surface water impact/lake capacity assessment.
8. for Storm Drainage related to sewers, ditches, swales, etc., a storm water management study will be required prior to development approval. A preliminary storm water management plan is recommended, and should be prepared concurrent with any required hydrogeological studies.

A preferred methodology for developing stormwater management plans is detailed in the MOEE manual *Stormwater Management Practices Planning and Design Manual, June 1994*.

Stormwater Management Plans prepared by the proponent should be based on the requirements of the Watershed/Subwatershed plans, where they exist, and on Master Drainage Plans, where they do not. These plans should indicate the impact of the proposed development on water quantity and water quality, discuss any proposed mitigation measures to overcome drainage problems and ensure integration with the upper-level drainage plans.

Zoning by-laws can be used to identify specific setbacks for lots, thereby providing for the protection of areas adjacent to buffers. To be effective, stormwater management techniques such as buffer strips and setbacks must be required and enforced by the municipality through zoning by-laws.

Site plan controls adopted in official plans can be used effectively to:

1. Specify the location and maintenance of buffers and type of vegetation cover.
2. Control alteration to elevation or contour of the land.
3. Specify the location of buildings, fences or structures requiring on-site setbacks, in conjunction with applicable zone provisions.

Sediment and erosion may increase one thousand fold (or more) during construction phases of new development. To be effective, sediment control must be in place throughout all phases of the development and construction process. Topsoil conservation by-laws can be used to regulate losses of sediment from construction sites. Erosion and sediment control plans should be prepared for sites under construction.

Note 1: Residential development involving more than 5 lots on communal or individual on-site subsurface water supply and wastewater systems will require a hydrogeological study. Hydrogeological studies for individual on-site services should be prepared according to MOEE's *Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment*, and MOEE's *Technical Guideline for Private Wells: Water Supply Assessment*. Communal systems (i.e., systems serving more than 5 lots or treating more than 4500 litres per day effluent) will require hydrogeological studies which demonstrate compatibility with MOEE's *Reasonable Use Policy 15-08* [Guideline B-7] (MOEE strongly discourages the use of septic systems to treat commercial or industrial process water and/or cooling water, due to the high risk of contamination to ground water and/or damage to tile beds. Only human sewage should be treated by subsurface disposal.).

Development involving lots greater than 1 hectare in size normally do not require detailed hydrogeological studies; however an OPA should be accompanied by signed certification from a qualified hydrogeologist that the lands are not hydrogeologically sensitive, are suitable for the use of subsurface sewage disposal systems, and will be able to supply adequate quantities of potable water. A consultant can provide this information on the basis of:

- (i) a site visit; and
- (ii) examination of nearby water wells and MOEE water well records; and
- (iii) review of any available MOEE publications on ground water potential; and
- (iv) review of any available ground water studies and/or literature on the area; and

- (v) discussion of the proposal with local health unit officials; and
- (vi) discussion of the proposal with local well contractors; and
- (vii) the consultant's own familiarity with the area.

Appendix

Additional Sources of Information on Water Quantity and Quality

A1 *MOEE Policy Manual Guidelines, Part B: Water Guidelines*

- B-1-1** Water Management: Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, July 1994 (“The Blue Book”).
- B-1-2** Revised Tables of Objectives for Ministry of Environment and Energy’s Publication “Water Management”
- B-1-3** Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario
- B-1-4** Fill Quality Guidelines for Lakefilling in Ontario
- B-2** Surface Water Quality Management - Deviations
- B-3** Resolution of Well Water Quality Problems Resulting from Winter Road Maintenance
- B-4** Snow Disposal and De-Icing Operations in Ontario
- B-5** Drinking Water Quality
- B-6** Evaluating Construction Activities - Gas/Oil Transmission Pipelines Crossing Watercourses
- B-7** Incorporation of The Reasonable Use Concept into MOEE Groundwater Management Activities
- B-8** Evaluating Construction Activities - Highways and Bridges
- B-9** Resolution of Groundwater Interference Problems
- B-10** Evaluating Construction Activities - Marine Construction Projects
- B-11** Evaluating Construction Activities - Small Scale Construction Projects
- B-12** Potable Water Storage Structures
- B-13** Treatment Requirements for Municipal and Communal Waterworks Using Surface Water Sources
- B-14** Treatment Requirements for Municipal and Communal Waterworks Using Groundwater Sources
- B-15** Use and Storage of Pesticides at Waterworks

A2 *MOEE Technical Guidelines*

- MOEE Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment.
- MOEE Technical Guideline for Private Wells: Water Supply Assessment.
- Training Manual: MOEE Hydrogeological Technical Information Requirements for Land Development Applications.
- Stormwater Management Practices Planning and Design Manual, June 1994
- Guidelines on Erosion and Sediment Control for Urban Construction Sites, 1987
- Interim Guidelines for the Preparation of Sewage System Impact Assessments - MOEE, 1990

A3 *MOEE Guidelines and Information Papers*

- Integrating Water Management Objectives into Municipal Planning Documents, 1993 (Interim Guideline)
- Water Management on a Watershed Basis: An Ecosystem Approach, 1993 (Interim Guideline)
- Subwatershed Planning, 1993 (Interim Guideline)
- Toward an Ecosystem Approach to Land Use Planning: A Biophysical Environment Perspective, 1992 (MOEE Background Paper)
- Monitoring Cumulative Environmental Effects in the Niagara Escarpment Plan Area, 1993 (MOEE Draft Background Paper)
- Inland Lake Trout Management in Southeastern Ontario, January 1993 (MOEE - Southeastern Ontario and MNR)
- Deriving Receiving Water Based, Point-source Effluent Requirements for Ontario Waters, "Guideline for Handling Requests for Deviations", 1994
- Clean-up Rural Beaches (CURB) Program
- Remedial Action Plans

A4 *MOEE Ground Water Data Reports*

Drainage Basin Reports

- | | |
|---------------------------|------------------------|
| • Big Creek | • South Nation River |
| • Big Otter Creek | • Thames River |
| • Upper Nottawasaga River | • Grand River |
| • Moira River | • Duffins-Rouge Rivers |

- Holland-Black Rivers
 - Soper Creek
 - Forty Mile and Oakville Creeks
 - Lake Ontario shore (Bowmanville - Newcastle)
 - Moira River, Wilton Cr., Islands
 - Wilton Creek
 - Bowmanville, Soper, Wilmot Creeks
 - Blue Springs
 - East and Middle Oakville Creeks
 - North Ontario Basins

County/Regional Municipality Probability Maps

- | | | |
|---------|-------------|-----------|
| • Essex | • Haldimand | • Huron |
| • Peel | • Durham | • Norfolk |
| • Kent | • Brant | • Bruce |
| • Elgin | • Lambton | |
| • Grey | • Simcoe | |

Major Aquifers in Ontario

- | | |
|----------------------|------------------------------------------|
| • Oak Ridges Complex | • Guelph-Amabel |
| • Alliston Complex | • Bedrock Well Yields - L. Ont. Basin |
| • Guelph-Lockport | • Overburden Well Yields - L. Ont. Basin |

Ground Water Susceptibility (to contamination) Maps

- topographic sheets (1:50,000)

Flowing Wells in Ontario

NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Natural Heritage and Environmental Protection

Implementation Guideline for Policies A1.2 and 1.4

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

Additional technical manuals may be provided by ministries from time to time to provide more detail on the evaluation of natural heritage features and areas, and the implementation of this policy statement.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local District or Area office of the Ministry of Natural Resources.

NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Fish Habitat

Implementation Guideline for Policy A1.3

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

A technical manual is being developed to expand on the information provided in this implementation guideline. It will provide more detail on the evaluation and management of fish habitat.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local District or Area office of the Ministry of Natural Resources.

TABLE OF
CONTENTS

1 Introduction 1

1.1 *Benefits of Fish Habitat* 1

1.2 *Description of Fish Habitat* 2

1.3 *Losses of Fish Habitat* 4

2 Policy Explanation and Implementation 7

2.1 *Explanation of the Policy Statement* 7

2.2 *Implementation* 9

Planning on a Watershed and Subwatershed Basis 11

Official Plans 11

Comprehensive Zoning By-Laws 14

2.3 *Information Needs* 14

Appendix

A *Glossary* 17

B *Legislation and Policy* 19

C *Roles and Responsibilities for
Fish Habitat Management in Ontario* 20

D *References* 22

1

INTRODUCTION

The purpose of this guideline is to assist with the implementation of policy A1.3 contained in the Comprehensive Set of Policy Statements. This policy addresses fish habitat, and is one of a number of policies whose goal is to ensure the long-term health of Ontario's natural ecosystems.

This guideline describes fish habitat, discusses its importance and the benefits it provides, and describes the potential impacts of development on habitat. The document also explains the intent of policy A1.3 and describes ways in which the policy can be implemented through the municipal planning process.

Additional information which may be helpful in implementing policy A1.3 is provided in a supporting Technical Manual. This information is of a more technical and detailed nature than that contained in this guideline. Among other matters, the manual provides additional information concerning potential impacts of development on fish habitat and describes ways in which habitat can be protected effectively.

1.1

Benefits of Fish Habitat

Fish and their habitats have intrinsic value as a significant and vital element of natural ecosystems.

Diverse and self-sustaining fish communities are indicators of a clean and healthy environment. In addition, fish habitat provides significant social and economic activities and benefits.

For thousands of years, fish have provided an important source of food and also have been used extensively by aboriginal people for barter. Early European settlers also relied heavily on the fisheries resource. In recent years, the fish populations of Ontario have supported important commercial, recreational and Native fisheries.

The fisheries resource of Ontario is the object of considerable leisure activity and contributes substantially to the tourism industry. Close to one in every five adult Ontarians fished in 1990, and nearly three in every 10 adult anglers in Ontario were visitors to the province (MNR n.d.). In that same year anglers spent \$1.1 billion on activities directly related to fishing. Healthy fish habitat is essential to ensuring the maintenance of these fisheries and the benefits they provide.

Fish habitat and other aquatic components form an integral part of natural ecosystems. The health of ecosystems can only be sustained by protecting all of their parts. Fish habitat is linked closely to other components of policy A, namely: ground water recharge areas, head-waters and

aquifers (A1.1), natural heritage features and areas (A1.2), and wetlands (A2). The protection of one component therefore benefits other components as well. For example, the protection of fish habitat also contributes to the protection of drinking water quality and quantity within a municipality.

1.2

Description of Fish Habitat

Fish habitat is defined in the policy as follows:

"Fish habitat means the spawning grounds and nursery, rearing, food supply and migration areas on which *fish* depend directly or indirectly in order to carry out their life processes."

This definition is consistent with that of the *Fisheries Act* (Canada). The definition refers to areas on which fish depend directly or indirectly. As such, many wetlands, shorelines, ground water recharge areas, aquifers, and the quantity and quality of ground water and surface water are important to maintaining the quantity and quality of fish habitat but are addressed through other policies in the Comprehensive Set of Policy Statements as well as other statutory mechanisms.

Fish habitat includes all of the features of waters and surrounding lands that supply food and cover and provide for successful reproduction. Habitat also includes the waterways that act as corridors to allow fish to move from one feature to another (Figure 1). The habitat requirements of fish can vary with the life stage, season, and even the time of day. However, water quality suitable for the local fish community is required at all times.

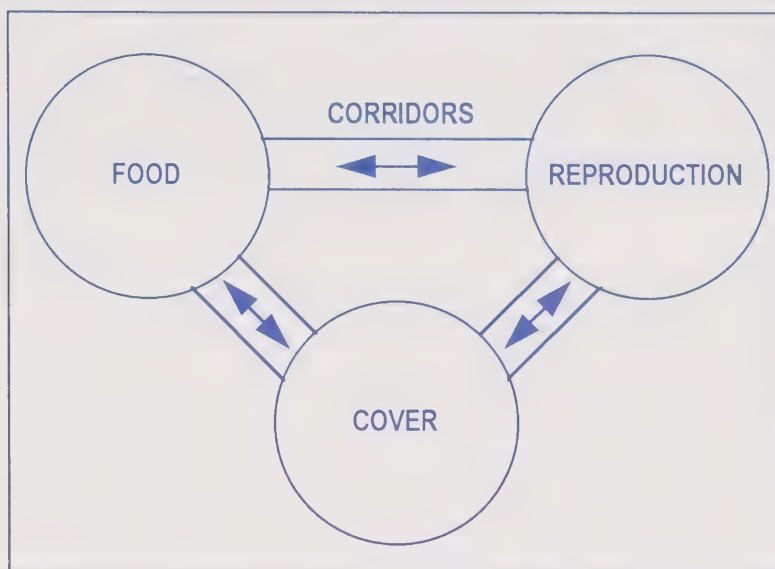


Figure 1. Fish Habitat Requirements for Survival

Various habitat features contribute to one or all of the basic life requirements of fish. For example:

- In-water structures such as logs and stumps provide cover and sources of food for all life stages of fish and invertebrates.
- Riparian and lakeshore vegetation provide overhead cover and a source of food. In addition, they influence water quality by providing shade that modifies water temperature. Their root systems also help to absorb nutrients during spring runoff and storm events.
- Stream channel features such as pools and riffles provide sources of food and spawning areas. Undercut banks provide cover for all life stages. The channel itself provides the corridor that links feeding and cover areas and provides access to spawning areas. Riffles contribute to water quality through increasing dissolved oxygen concentrations.
- Water quality is an essential consideration. For example, brook trout require cold water to survive. Ground water discharges are essential for maintaining brook trout habitat because they are colder in summer and warmer in winter than ambient conditions. Similarly, lake trout require deep, cold, well-oxygenated water to complete their life cycles.

Some areas which are important habitat at specific times of the year may not appear to be fish habitat at other times. For example, pike use flooded areas for spawning in the spring. In the summer, when the water recedes from high spring levels, these spawning areas may be dry and separated from the lake or river. As well, some streams which may be dry in the summer, flow in the spring providing spawning and nursery areas for fish such as suckers, walleye and a variety of

forage fish.

The above features together provide the basic life requirements for fish and consequently are part of their habitat. Any changes to these habitat features could, in turn, cause the harmful alteration, disruption or destruction of fish habitat.

1.3

Losses of Fish Habitat

Fish populations cannot exist without the habitats that support them. Unfortunately, many of the activities undertaken by society have adverse effects on fish habitat. Many fish populations in Ontario have suffered significant declines due to habitat degradation.

The activities, structures, changes in land use and alterations to hydrology associated with development can have an impact on fish and fish habitat. Fish habitat can be damaged in a variety of ways, for example:

- dredging or filling of nearshore spawning and nursery habitat;
- loss of riparian or lakeshore vegetation;
- removal of stumps, logs or aquatic plants along the shoreline;
- stream alterations;
- poorly managed stormwater runoff;
- impaired water quality through an increase in temperature or increased loadings of sediment, nutrients or pesticides; and
- loss of ground water recharge capability.

These activities have the potential to affect fish habitat in several ways, including loss of site-specific habitat, baseflow alterations, increased temperature, increased nutrients and contaminants, increased sedimentation and turbidity, and barriers to fish movement. In most cases, ways can be found (e.g., location, design, timing) to allow development to occur while at the same time protecting fish habitat from harmful alteration, disruption or destruction.

Habitat protection is a complex matter because activities can have direct or indirect impacts on fish habitat. Direct impacts often result from the physical destruction or alteration of habitat by development occurring in the habitat. For example, the removal of bottom substrates by dredging activities may result in a direct loss of habitat through the elimination of bass spawning areas.

Indirect impacts result from environmental changes which ultimately affect the quality and/or

quantity of fish habitat. These changes can result from development near the habitat or at a considerable distance from it. An example of an indirect impact is the increase in water temperature which may result from the gradual removal of riparian vegetation.

The impacts can occur at, upstream, downstream or a considerable distance offshore or along a shoreline from the construction site itself. Some impacts do not occur until some time after the development activity has started, but can continue on a long-term or permanent basis. For example, a development may reduce surface water infiltration to the point where there is insufficient ground water at an upwelling site to allow brook trout to spawn.

Even developments that are small in scale can have significant impacts on habitat, either individually or collectively. A series of seemingly insignificant losses in fish habitat can add up to a significant cumulative loss.

Regardless of the activity in question, concern is greatest for habitat that is particularly sensitive to development. For example, the migration of nutrients from tile fields to lake trout lakes is of special concern because of the high sensitivity of lake trout to the reduction in levels of dissolved oxygen which may result. Where the fish species present have less stringent habitat requirements, proposed activities are less likely to have a harmful impact on habitat.

The Governments of Canada and Ontario through legislation, federal-provincial agreements, policies and specific guidelines have reaffirmed their commitment to the effective management of fish habitat. The roles and responsibilities of the two levels of government are described in Appendix C.

Numerous federal and provincial statutes provide protection for fish habitat in Ontario (see Appendix B). The *Fisheries Act* (Canada), in particular, provides powerful protection for fish habitat. This Act prohibits the "harmful alteration, disruption or destruction of fish habitat" unless authorized by the Minister of Fisheries and Oceans (Section 35). It should be noted that proponents must comply with the requirements of the *Fisheries Act* whether or not approvals have been received under other statutes.

The *Fisheries Act* and the Comprehensive Set of Policy Statements do not differentiate among commercial fish, sport fish, bait fish, forage fish or warmwater and coldwater fish. Fish are defined in the policy as follows:

Fish includes (a) parts of fish; (b) shellfish, crustaceans, marine animals, and any parts of shellfish, crustaceans and marine animals; and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Although the *Fisheries Act* provides important protection for fish habitat, it generally comes into effect only after damage has occurred. The high cost of restoration is demonstrated by international plans for restoring the Great Lakes. Impairment of fish habitat is identified in Remedial Action Plans for 38 Areas of Concern (AOCs) (Hartig 1993). For the 17 Ontario AOCs alone, the cumulative cost of restoring fish habitat is estimated at \$100 million.

Habitat restoration is also a relatively recent science and it is not always possible to restore fish habitat for technical and other reasons. The first priority is to protect fish and fish habitat to sustain the resource.

By emphasizing protection first, the high cost of restoration will be avoided, helping to ensure that societal benefits continue. The municipal planning process provides opportunities to protect habitat by preventing harmful impacts from occurring. The establishment of sound policies in official plans is an effective way of providing habitat protection and ensuring compliance with the *Fisheries Act*. As development opportunities arise, these policies will also allow the productive capacity of fish habitat to be increased through habitat restoration, enhancement or creation. Potential impacts should be addressed early in the planning stages of proposed development to avoid costly delays and the need to restore habitat which becomes degraded.

Guidelines for the protection of fish habitat are provided in the Technical Manual supporting policy A1.3.

2

POLICY

Explanation and Implementation

2.1

Explanation of the Policy Statement

Goal A1 of the policy statements is:

"To protect the quality and integrity of ecosystems, including air, water, land and biota; and, where quality and integrity have been diminished, to encourage restoration or remediation to healthy conditions."

The emphasis of this goal is on the protection of natural ecosystems, including aquatic ecosystems and fish habitat. In relation to policy A1.3, the goal also encourages the restoration or remediation of fish habitat where it has been diminished.

Policy A1.3 states that:

"*Development₂* may be permitted if it does not harmfully alter, disrupt or destroy *fish habitat*. There will be *no net loss* of productive capacity of *fish habitat*, and a *net gain* of productive capacity wherever possible."

Development in the context of policy A1.3, is defined as the construction, erection or placing of a building or structure; activities such as site grading, excavation, removal of top soil or peat, and

the placing and dumping of fill; drainage works, except for the maintenance of existing municipal and agricultural drains. Works subject to the *Drainage Act* are not considered as development for purposes of the definition.

Some activities are frequently associated with development and often occur subsequent to it (e.g., installation of culverts in support of development). These activities are not authorized under the *Planning Act* and are not considered as development. They may be regulated under other legislation (e.g., *Public Lands Act*, *Lakes and Rivers Improvement Act*).

As with goal A1, the focus of policy A1.3 is on preventing damage by protecting fish habitat from the potentially harmful impacts of development as defined. The first sentence indicates the main intent of the policy: to anticipate and prevent harmful alteration, disruption or destruction of fish habitat as a result of development.

The phrase "harmfully alter, disrupt or destroy fish habitat" is consistent with the *Fisheries Act*. The Act prohibits activities that result in harmful alteration, disruption or destruction of habitat. Policy A1.3 represents a proactive approach, the goal of which is to ensure that development approved under the *Planning Act* does not harm fish habitat and that the ability of habitats to satisfy life cycle requirements of fish is increased where possible.

In many cases some form of development may be permitted if adequate measures are taken to protect habitat. This approach recognizes that while all fish habitat is important, some habitats may require a higher level of protection than others because of their sensitivity to development.

Productive capacity, as defined by the federal Department of Fisheries and Oceans (DFO), means the maximum natural capability of habitats to produce healthy fish, safe for human consumption, or to support or produce aquatic organisms upon which fish depend.

No net loss refers to a working principle by which unavoidable habitat losses are balanced with habitat replacement on a project-by-project basis so that further reductions in Ontario's fisheries resources due to habitat loss or damage may be prevented.

The second sentence of policy A1.3 recognizes that there are circumstances in which it is not possible to prevent harmful alteration, disruption or destruction of fish habitat without prohibiting development entirely. The policy allows development to proceed, in some cases, provided there will be no net loss of the productive capacity of fish habitat. That is, development may be allowed on condition that compensation for loss is provided through replacement of natural habitat or through increasing the productivity of existing habitat. In some situations compensation is not permitted because of the nature of the proposed development and the sensitivity of the habitat involved. Further information on the use of compensation is provided in the Technical Manual.

The second sentence of the policy also refers to providing a net gain of productive capacity wherever possible. Net gain means that there is an actual increase in the area and/or number of fish habitats through the creation of new fish habitat areas or the expansion and/or rehabilitation of existing habitat areas. In some cases the productive capacity of habitats can be increased by manipulating natural physical and biological factors or by providing access to new habitat.

2.2

Implementation

The *Planning Act* establishes a land use planning process which sets out a distinct framework for the development of environmental, social, and economic goals and objectives for a planning jurisdiction. Because the maintenance of healthy aquatic ecosystems requires the management of human activities, the protection of fish habitat is an essential consideration in any land use planning process. Planning and the regulation of development provides a preventative approach which is very important to the overall success of fish habitat management.

Effective implementation of policy A1.3 for fish habitat requires that proposed development be reviewed and potential impacts on fish habitat be assessed. If necessary, appropriate protective measures should be taken. These include relocation, redesign, mitigation and compensation for loss. Details concerning the use of these measures are provided in the Technical Manual.

In implementing policy A1.3, a proactive, comprehensive policy approach is preferred. It is more effective to prevent problems from occurring, and to plan to avoid conflicts, than to react to them at a later date. The establishment of appropriate policies in official plans is one of the most effective mechanisms for preventing problems.

Net gain of fish habitat is the overall objective of the federal government's policy for the management of habitat (DFO 1986; see Appendix C). Where possible, the productive capacity of fish habitat should be increased (net gain) through the restoration of degraded habitat, the enhancement of existing habitat and/or the creation of new habitat.

In general, it is most beneficial to pursue net gain in degraded watersheds where the productive capacity of fish habitat has been diminished. The land use planning process provides important opportunities to increase productive capacity in such watersheds.

The provision of net gain should always be a consideration. However, the feasibility of achieving net gain is site specific and depends on biological, technological, economic and social factors. Therefore, the provision of net gain is not expected in all cases. At a minimum, in considering same-cost protection options, proponents should choose those that result in a net gain.

It is recommended that the public be involved in decisions concerning the achievement of net gain. Net gain should be pursued wherever appropriate actions have been agreed upon through a process involving public consultation.

In order to satisfy the intent of policy A1.3, fish habitat should be protected through all stages of the planning and development process. Official plans should include statements of general intent for the protection of fish habitat and policy approaches which achieve it. Comprehensive zoning by-laws should complement the official plan and implement its policies. It is also expected that habitat will be protected through other types of planning decisions (e.g., zoning orders, plans

of subdivision, site plan control, consents and minor variances).

Recognizing the diversity of planning authorities and official plans across the province, provincial agencies such as the Ministry of Natural Resources (MNR) will continue to be involved in the input to and review of both planning documents and development applications until municipal policies are "consistent with" the policy statements. However, in areas where appropriate training or advice has been provided to planning authorities to address the protection of fish habitat, or where appropriate expertise and official plan policies are already in place, provincial agencies such as MNR will not normally review specific development control applications. This is in keeping with the intent to require consistent, local decision making within a clear provincial policy framework. Further advice and expertise will be provided as requested or required, and municipalities are encouraged to involve provincial agencies in the review of particular proposals, where necessary.

When preparing planning documents, municipalities should take the following matters into consideration:

- Healthy fish habitat is an indication of a healthy environment for other species, including humans.
- Consideration should be given to the possible demand for subsequent habitat alterations as a result of a development proposal.
- All fish habitat is important and should be protected. Some habitat is more sensitive to the effects of development than others and therefore warrants greater protection from it.
- Our understanding of how development affects fish habitat is based on the best science currently available. This science is constantly evolving. A cautious approach which avoids risk, ensures the long-term protection of fish habitat and maximizes future potential benefits, is required.
- It is more effective and less costly to anticipate and prevent harmful impacts on fish habitat than to correct problems after they occur.
- There are a number of options for the protection of fish habitat in the land use planning process: relocation, redesign, mitigation and compensation. Relocation and redesign are preferable to mitigation and compensation because they involve less risk to the resource. A combination of options (e.g., redesign and mitigation) is often required for effective protection.
- Where loss of habitat cannot be prevented, compensation in the form of habitat restoration, enhancement and/or creation may be approved by the Department of Fisheries and Oceans (DFO). Replacement of habitat at or near the site where the loss will occur is

the preferred method of providing compensation (see Technical Manual).

- Where loss of habitat cannot be prevented and compensation is not feasible or is considered unacceptable by DFO and MNR, development may not be permitted.
- Restoration, enhancement and/or creation of fish habitat should be encouraged throughout the planning and development process.

There are several mechanisms available to planning authorities for developing and adopting policy on fish habitat. The preferred approach is to plan for water-related resources on a watershed, subwatershed or shoreline basis through policies in official plans and comprehensive zoning by-laws. Official plans and zoning by-laws provide the most proactive and effective means of identifying, protecting and restoring fisheries resources.

Planning on a Watershed and Subwatershed Basis

Federal and provincial governments recognize that the most effective way of developing management strategies and practices for water-related resources is to plan on the basis of watersheds and subwatersheds. Such planning helps to ensure that the implications of local planning decisions are assessed throughout the watershed and that environmental problems are prevented before they occur (MOEE and MNR 1993a, 1993b, 1993c).

Planning on a watershed basis is also an effective means of integrating the requirements of policies in the Comprehensive Set of Policy Statements, particularly those which are water related. Official plans should reflect the broad direction, goals and targets established for the entire watershed area.

Planning on the basis of shorelines is another way in which agencies can manage the water, land/water interactions and aquatic resources of an area in order to protect its long-term health (MNR 1987). The major difference from planning on a watershed basis is that shoreline planning sets goals and objectives for a defined shoreline of a lake, which can encompass portions of several watersheds. Where available, recommendations established through this process should be reflected in official plans to ensure local decisions are made within the context of the broader shoreline area.

Official Plans

The official plan provides planning authorities with a policy framework within which decisions regarding land use planning are made. Planning authorities should use their official plan as a proactive means of identifying how they will make their decisions consistent with policy A1.3.

In general, planning authorities are encouraged to review, as soon as possible, their planning documents and practices with respect to the protection of fish habitat. However, it should be recognized that new fish habitat information will become available from time to time and that official plans should either be flexible enough to adopt this new information or be amended.

The official plan should address the following matters:

1. The plan should include a goal statement recognizing the importance of healthy aquatic ecosystems and requiring fish habitat to be protected from incompatible land uses and activities. Policies should reflect the commitment of the planning authority to maintaining and, where possible, increasing the productive capacity of fish habitat.

Planning authorities are encouraged to establish goals and policies that:

- recognize the importance of healthy aquatic ecosystems for the long-term recreational, economic, environmental and aesthetic benefits of the present and future inhabitants of the planning jurisdiction;
 - protect all fish habitat from harmful alteration, disruption or destruction; and
 - encourage the restoration, enhancement and creation of fish habitat.
2. The official plan should identify the location of fish habitat. At a minimum, the plan should include a general textual reference identifying the existence of fish habitat in the planning jurisdiction. In many situations designation on a land use schedule may be appropriate depending on the availability of information and the sensitivity of resources within the jurisdiction or watershed. Areas where development would be restricted should be identified on a land use schedule. Alternatively, a Resource Information Map could be appended to the official plan. The suitability of the following approaches depends on the information available, the nature of fish habitat present, and the general approach of the planning authority:
 - Textual statement - A textual statement should be present in the official plan, whether or not site-specific habitat is identified. This is important because not all fish habitat can be identified immediately with current knowledge. The textual statement will also provide a mechanism for consideration of new information.
 - Designation on the land use schedule - The land use schedule should include a designation for fish habitat, such as Environmental Protection.
 - Identification on a Resource Information Map - Fish habitat could be identified on a schedule or map, separate from the land use schedule. The identification of habitat could be shown superimposed on the land use schedule and would indicate a possible constraint to future development.
 3. The official plan should provide specific protection policies. Detailed protection policies should indicate when and how fish habitat concerns will be addressed. Generally, the plan should:

- permit only those land uses in or adjacent to fish habitat which maintain or enhance the natural features of the area. The policies of the official plan should indicate that fish habitat is to be considered in the land use planning process and that development may be permitted if it does not harmfully alter, disrupt or destroy fish habitat.
- address water- and fish-related resources on a watershed and/or subwatershed basis. Planning on the basis of watersheds is encouraged in order to address a wide range of issues within the entire watershed. This approach recognizes that fisheries resources span jurisdictional boundaries and that development can have significant cumulative effects.
- maintain the natural condition of aquatic ecosystems and associated riparian and lakeshore lands. In most cases, the direct impacts of development on fish habitat can be addressed in part by restricting modifications to aquatic ecosystems and by maintaining riparian habitat, or a vegetative buffer, in a natural state (see Technical Manual). It is important that any requirement for a vegetative buffer be clearly set out in the official plan.
- outline the information needed to assess potential impacts on fish habitat when development is proposed in or adjacent to fish habitat. This information is used to determine whether the specific development proposal adequately protects fish habitat.
- outline alternative implementation mechanisms to address fish habitat protection requirements. The official plan should indicate how comprehensive zoning by-laws and other planning tools such as site plan control and holding by-laws can be used to protect fish habitat.
- consider relocation and redesign of development proposals before mitigation and compensation. Consideration should be given to the preferred options for achieving no net loss of fish habitat as early as possible in the development process. In many cases, habitat protection will be achieved through a combination of options.
- indicate how a net gain of productive capacity of fish habitat will be achieved, where possible. The official plan should state that, where possible, a net gain will be achieved through the restoration of degraded habitat, the enhancement of existing habitat and/or the creation of new habitat.

Where no official plan exists, it is recommended that fish habitat be identified on the schedule of the comprehensive zoning by-law. Where no official plan or zoning by-law exists, policy A1.3 for fish habitat should be implemented through the development review process.

Comprehensive Zoning By-Laws

Comprehensive zoning by-laws that identify specific fish habitat provide excellent information to future landowners about any restrictions on the use of their lands. However, official plan policies can be rendered virtually useless if the existing zoning permits development in and adjacent to fish habitat that is not consistent with policy A1.3.

Under Section 34 of the *Planning Act*, planning authorities may pass and amend zoning by-laws to restrict and prohibit land use and regulate the location, size, height and massing of buildings and structures. Zoning is the best mechanism to control land use in or adjacent to fish habitat.

Zoning by-laws can be used to:

- restrict new development in or adjacent to fish habitat by using a no development or a low density zone;
- regulate setbacks from shorelines or other sensitive features. A special no development zone can be used along shorelines or a provision can be added to the General Provisions section of a zoning by-law indicating that specified uses are not permitted;
- restrict the density of development by adopting increased frontage and area requirements in sensitive areas;
- limit the amount of land covered by buildings, structures or parking lots by imposing maximum lot coverage provisions or by using defined building envelopes; and
- restrict any specific land use or groups of land uses within a defined area.

Zoning cannot be used to regulate dredge and fill activities, landscaping or vegetation removal. However, some municipalities may control these activities through by-laws passed under the *Municipal Act* or *Trees Act*.

2.3

Information Needs

Effective implementation of policy A1.3 depends in part on the availability of sufficient information concerning fish habitat within the planning area.

The proponent of a proposed undertaking should provide the information necessary for decision making. This includes existing as well as new information that may be needed. Existing information may be obtained from a number of agencies including MNR, MOEE and conservation authorities. Additional details on information sources are provided in the Technical Manual

supporting policy A1.3.

Both known habitat and areas of potential value as habitat should be identified and considered. Assessment of the need for habitat protection, creation, enhancement and/or restoration in specific circumstances requires knowledge of the sensitivity of local habitats and the factors limiting their productive capacity.

The need for information depends on numerous factors and cannot be specified for all situations. Among other things, the need varies with the approach employed, the nature and amount of proposed development, the type of planning undertaken, and the level of decision making. In general, more detailed information (over a smaller area) is needed for site-specific decisions than for decisions affecting a broader area.

Guidelines for the protection of fish habitat with respect to specific development activities are provided in the Technical Manual supporting policy A1.3. The discussion of protection requirements is also helpful in identifying specific information needs. Information needs commonly include the following:

- general watershed/subwatershed characteristics (e.g., headwaters, land use);
- location of water resources (e.g., lake and stream systems);
- nature of fish communities (e.g., species present);
- location and nature of known or potential fish habitats (e.g., spawning areas, migration routes);
- factors limiting productive capacity (e.g., impaired water quality, downstream barriers); and
- habitats sensitive to development (e.g., ground water upwelling areas; habitats supporting vulnerable, threatened or endangered species).

In some cases additional information may be needed for decision making. For example, a fish habitat inventory may be needed when there is insufficient information available concerning fish or fish habitat in the area which may be affected by the proposed undertaking. As another example, hydrogeological studies may be needed where potential impacts on ground water are a concern.

The proponent should use the information obtained to identify potential impacts of proposed development on fish habitat. In some cases the impacts of approved or existing development will need to be identified as well. Options for protection should be assessed, and a determination should be made as to whether the undertaking is likely to cause harmful alteration, disruption or destruction of fish habitat. It is the responsibility of the proponent to demonstrate that development will not harmfully alter, disrupt or destroy fish habitat, consistent with policy A1.3.

Fish habitat is a feature of almost all shorelines of lakes, rivers and streams. Consequently, the

assessment of potential impacts of development in and adjacent to shorelines (policy A1.2) will address the need for information and impact assessment for fish habitat in most cases. The requirements for environmental impact studies for shorelines are established in the Comprehensive Set of Policy Statements (see G6.1 to 6.3).

The complexity of the assessment of potential impacts on fish habitat depends in part on the level of planning which has already been carried out on a watershed, subwatershed or shoreline basis. In general, the more planning of this kind that has been done, the less information that is needed for impact assessment. The complexity of the assessment also depends on the nature of the proposed development and the type of fish habitat involved.

The assessment of impacts should be carried out over a geographic area that is large enough to include all potential impacts, including cumulative impacts. This may necessitate consideration of an area considerably larger than the proposed development site itself. For example, it may require consideration of habitat throughout the waterbody potentially affected by the undertaking. In some cases potential impacts may have already been assessed through a more comprehensive planning process (e.g. watershed, shoreline).

Further information concerning the assessment of impacts of proposed development on fish habitat is provided in the Implementation Guideline for Natural Heritage and Environmental Protection (policies A1.2 and A1.4).

Appendix

Glossary

The words that appear in italics in this guideline are defined below. These definitions are also contained in the Comprehensive Set of Policy Statements and, where this occurs, the terms are defined identically in both locations.

A number of additional definitions is also provided for certain terms used in the guideline only. The definitions of these particular terms are always prefaced with ‘in general’, to indicate that they are not part of the Comprehensive Set of Policy Statements.

Compensation for Loss:

means, in general, the replacement of natural habitat, or increase in the productivity of existing habitat, where mitigation techniques and other measures are not adequate to maintain habitats for Canada’s fisheries resources.

Fish:

includes (a) parts of fish; (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals; and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Fish Habitat:

means the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly for their life processes.

Ground water:

means sub-surface water, or water stored in the pores, cracks, and crevices in the ground below the water table.

Ground water discharges:

mean, in general, springs or areas where ground water seeps into a stream or lake and provides a source of cold water.

Ground water recharge area:

means an area in which there is significant addition of water by natural processes to ground water.

Head-water:

means the source area of a stream.

Invertebrates:

means, in general, animals which do not possess a backbone (e.g., insects, clams, crayfish).

Lakeshore Vegetation:

means, in general, vegetation which grows on land beside a lake.

Mitigation:

means, in general, actions taken during the planning, design, construction and operation of works and undertakings to alleviate potential adverse effects on the productive capacity of fish habitats.

Net Gain:

when referring to fish habitat, means that there is an actual increase in the area and/or number of fish habitats through:

- the creation of new fish habitat areas, or
- the expansion of and/or the rehabilitation of existing fish habitat areas.

No Net Loss:

means a working principle by which the Ministry of Natural Resources strives to balance unavoidable habitat losses with habitat replacement on a project-by-project basis so that further reductions to Ontario’s fisheries resources due to habitat loss or damage may be prevented.

Productive Capacity:

means, in general, the maximum natural capability of habitats to produce healthy fish, safe for human consumption, or to support or produce aquatic organisms upon which fish depend.

Restoration:

when referring to fish habitat, means, in general, the treatment or clean-up of fish habitat that has been altered, disrupted or degraded for the purpose of increasing its capability to sustain a productive fisheries resource.

Riparian Vegetation:

means, in general, vegetation which grows on land beside a creek, stream or river.

Sensitivity to Development:

means, in general, the relative tendency for species, habitats or areas to be influenced by development activities.

Vegetative Buffer:

means, in general, a permanent setback established along the shoreline or streambank which remains in, or is to be returned to, a self-sustaining vegetated state.

Appendix

Legislation and Policy

In Ontario, protection for fish habitat is provided by numerous federal and provincial statutes as well as by federal and provincial policy. Relevant legislation and policy are as follows:

B.1 Legislation

Canadian Environmental Assessment Act

Conservation Authorities Act

The Environmental Assessment Act (Ontario)

Environmental Bill of Rights

Environmental Protection Act (Ontario)

Fisheries Act (Canada)

The Lakes and Rivers Improvement Act

Ontario Water Resources Act

The Planning Act

Public Lands Act

B.2 Policy

Policy for the Management of Fish Habitat (DFO 1986)

Strategic Plan for Ontario Fisheries (SPOF II; MNR 1991)

Appendix

Roles and Responsibility for Fish Habitat Management in Ontario

In Ontario, fish habitat management is a shared responsibility between the federal and provincial governments. As delegates or partners of the province, municipalities and conservation authorities also contribute to the effective management of fish habitat.

Three provincial ministries have major roles in ensuring that fish habitat is protected during development:

The Ministry of Natural Resources (MNR) is the provincial agency responsible for the stewardship of Ontario's fisheries, fish habitat and Crown lands and waters. MNR co-operates with the federal Department of Fisheries and Oceans (DFO) in administering the habitat protection provisions of the *Fisheries Act* (Canada). MNR also has the mandate to ensure compliance with a variety of other resource-related legislation (e.g., *Public Lands Act*, *Lakes and Rivers Improvement Act*).

The Ministry of Environment and Energy (MOEE) is the agency responsible for the management of surface and ground water quality and the taking of ground water. MOEE has primary responsibility for a number of provincial Acts which address these matters, including the *Ontario Water Resources Act* and the *Environmental Protection Act*.

The Ministry of Municipal Affairs (MMA) is responsible for administration of the *Planning Act*. This includes a responsibility for coordinating the provincial review (including review of potential impacts on fish habitat) of planning documents submitted for approval under the Act. Under the *Planning Act*, the municipal level of government has the main responsibility for decision making on land use planning matters. This responsibility includes accountability for relevant environmental considerations, including those related to fish habitat. Municipalities are also directed by the Act to make their decisions consistent with provincial planning policies such as policy A1.3.

The federal government has outlined its direction on managing fish habitat in the Policy for the Management of Fish Habitat (DFO 1986). As a signatory to the Canada-Ontario Memorandum of Intent on the Management of Habitat (Canada-Ontario 1989), Ontario has agreed to implement this policy.

In addition, DFO and MNR have agreed upon a process for the review and approval of projects likely to affect fish habitat. Through this "interim referral process", MNR reviews project proposals in and around water to determine if the project is likely to result in the harmful alteration, disruption, or destruction of fish habitat. Where harmful alteration, disruption or destruction of habitat cannot be avoided, the proposal is referred to DFO for authorization under the *Fisheries Act*.

The federal legislation and policy apply to both Crown and private land, but are implemented differently on the two land types. On Crown land the province generally has direct control over activities which may affect fish habitat. In many cases, however, activities which influence fish habitat take place on private land or on Crown land adjacent to private land (e.g., shoreline alterations). In these cases, proactive avoidance of contraventions of the *Fisheries Act* is encouraged through private land stewardship. MNR may provide technical assistance and advice to local landowners, and makes use of appropriate legislation, including

participating in the municipal planning process under the *Planning Act*.

The use of private land is primarily controlled by municipal planning documents (e.g., official plans and comprehensive zoning by-laws) prepared in accordance with the *Planning Act*. MNR, MOEE and MMA provide input to the preparation of local planning documents to assist planning agencies in ensuring appropriate protection and management of natural resources, including fish habitat.

As provided for under the *Planning Act*, MNR, MOEE and MMA may also review private land development proposals such as official plan amendments and zoning by-law amendments to ensure that adequate protection is provided for natural resources, and to identify any approvals required under applicable legislation.

A proactive approach to the protection of fish and fish habitat is preferred (e.g., planning on a watershed basis, having input to official plans and comprehensive zoning by-laws). In situations where concerns for fish habitat have not been addressed through such processes, proponents are encouraged to consult with review agencies early in the preparation of development plans to ensure that fish habitat is adequately protected.

Appendix

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NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Natural Hazards

Implementation Guideline for Policies A3.1, 3.2 and 3.3

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

A technical manual is being developed to expand on the information provided in this implementation guideline. It will provide more detail on the evaluation and management of natural hazards.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local District or Area office of the Ministry of Natural Resources.

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Importance of Natural Hazards Management</i>	<i>2</i>
1.2	<i>Linkages to Ecosystem-Based Planning (Shoreline, Watershed and Subwatershed)</i>	<i>3</i>
1.3	<i>Great Lakes - St. Lawrence River Shorelines</i>	<i>3</i>
	<i>Flooding</i>	<i>3</i>
	<i>Erosion</i>	<i>4</i>
	<i>Dynamic Beaches</i>	<i>4</i>
1.4	<i>Ravines, River Valleys and Streams</i>	<i>5</i>
	<i>Erosion and Unstable Slopes</i>	<i>5</i>
1.5	<i>Hazardous Sites</i>	<i>6</i>
	<i>Sensitive Marine Clays</i>	<i>7</i>
	<i>Organic Soils</i>	<i>7</i>
	<i>Unstable Bedrock</i>	<i>7</i>
1.6	<i>Riverine Flood Plains</i>	<i>8</i>
2	Policy Explanation and Implementation	10
2.1	<i>Policy Explanation</i>	<i>11</i>
	<i>Great Lakes - St. Lawrence River Shoreline</i>	<i>11</i>
	<i>Policy A3.1.1 Regulatory Shoreline</i>	<i>11</i>
	<i>Policy A3.1.2 Restrictions on Shoreline Development</i>	<i>14</i>
	<i>Policy A3.1.3 Standards Where Shoreline Development is Considered</i>	<i>16</i>
	<i>Ravines, River Valleys and Streams</i>	<i>18</i>

Implementation Guideline for Policies A3.1, A3.2 and A3.3 - Natural Hazards

<i>Policy A3.2</i>	<i>One Hundred Year Erosion Limit</i>	<i>18</i>
	<i>Hazardous Sites</i>	<i>22</i>
<i>Policy A3.3</i>	<i>Unstable Soils and Unstable Bedrock</i>	<i>22</i>
	<i>Riverine Flood Plains</i>	<i>24</i>
<i>Policy A3.5</i>	<i>Riverine Flooding</i>	<i>24</i>
<i>2.2</i>	<i>Implementation Approaches</i>	<i>25</i>
	<i>Official Plans</i>	<i>27</i>
	<i>No Development Designation</i>	<i>29</i>
	<i>Possible Development Designation</i>	<i>30</i>
	<i>Comprehensive Zoning By-Laws</i>	<i>33</i>
	<i>Use of a Specific Zoning Category</i>	<i>34</i>
	<i>Site Specific Provisions in Zoning By-Law</i>	<i>34</i>
	<i>Zoning Schedules</i>	<i>34</i>
	<i>General Provisions Section of a Comprehensive Zoning By-Law</i>	<i>36</i>
	<i>Other Zoning Mechanisms and Policy Approaches</i>	<i>36</i>
<i>2.3</i>	<i>Information Needs</i>	<i>37</i>

Appendix

<i>A</i>	<i>Glossary</i>	<i>39</i>
<i>B</i>	<i>Roles and Responsibilities in Natural Hazards Management in Ontario</i>	<i>40</i>
<i>C</i>	<i>Provincial Natural Hazards Management Program</i>	<i>42</i>
<i>D</i>	<i>Sources of Technical Information</i>	<i>44</i>
<i>E</i>	<i>Applicable Federal and Provincial Legislation</i>	<i>47</i>

1

INTRODUCTION

The purpose of these guidelines is to assist decision-makers, landowners and others involved in all aspects of planning or development in the implementation of policies relating to natural hazards which are contained in the Comprehensive Set of Policy Statements including:

- Policy A3.1 *Great Lakes - St. Lawrence River System Shorelines*
 - flooding, erosion, dynamic beaches
- Policy A3.2 *Ravines, River Valleys and Streams*
 - erosion, unstable slopes
- Policy A3.3 *Hazardous Sites*
 - unstable soils, unstable bedrock

These guidelines define and describe the provincial interests specific to each of the policies addressing natural hazards by discussing their importance and describing the potential impacts that natural hazards have on development. The document also explains the intent of each of the policies and describes ways in which they may be implemented through the municipal planning process. Where appropriate, reference is also made to the existing Provincial Policy Statement on Flood Plain Planning (1988) which has been restated in the Comprehensive Set of Policy Statements as policy A3.5.

For the purposes of clarification, policy A3.3 for hazardous sites is discussed in two ways, those components dealing with natural hazards and those dealing with human-made hazards. The natural hazards components of policy A3.3 are described in this guideline. Those components dealing with human-made hazards are described in two complementary guidelines entitled Past Mining Activities, prepared by the Ministry of Northern Development and Mines, and Petroleum and Salt Solution Mining Hazards prepared by the Ministry of Natural Resources.

Describing policies A3.1, A3.2, A3.3 and A3.5 as addressing "natural hazards" is actually somewhat misleading. In actual fact, these policies are defining and describing the "natural resources" or landscapes that are constantly being shaped and reshaped by naturally occurring physical and ecological processes. These natural resources or landscapes are only considered to be a problem or a "hazard" when people and structures are located within them or are affected by them.

Policies addressing natural resources or natural hazards also play an integral role in

determining the structure, composition and function of the ecosystem. As such, these policies should not be read or applied in isolation. Due consideration should be given to recognizing and integrating a broad range of policies (including natural heritage, fish habitat, wetlands, water quality and quantity) when developing an ecosystem-based planning strategy to address natural hazards. Effort has been made to provide similar linkages within this guideline.

1.1

Importance of Natural Hazards Management

The Province of Ontario is responsible for safeguarding the health and safety of the population from natural hazards such as flooding, erosion, dynamic beaches, unstable soils and unstable bedrock. The potential for loss of life, property damage and the social disruption experienced during emergency events are immeasurable. Areas of natural hazards, therefore, need to be identified and new development or land uses encouraged to locate in areas which are not subject to natural hazards.

Alternatively, where the natural hazards are considered to be minor in nature such that certain types of development could safely be sited within the area, these developments should include appropriate safeguards to address the natural hazards and to do so in an environmentally sound manner.

Historically, human responses to natural hazards have primarily involved the construction of various forms of protection or remedial works. In shoreline areas, for example, these works are often installed in an ad hoc fashion or largely ignore natural processes and environmental impacts. In a significant number of cases, rather than protecting against flood or erosion damages, the failure or improper selection, design or installation of protection works have often created new hazards resulting in marked increases in property damages, losses of land, social disruption and environmental damage.

Many municipalities are facing tough challenges in balancing the ever increasing and varied demands on their natural resources with the human desire to live in close proximity to water regardless of the severity of the natural hazards. Planning and development strategies that are geared toward effective natural hazards management will increase opportunities for the development of economically viable communities while still maintaining and enhancing the integrity of the ecosystem, protecting human life and minimizing property loss and social disruption.

1.2

Linkages to Ecosystem-Based Planning (Shoreline, Watershed and Subwatershed)

Municipalities and planning boards are finding that proper planning of their communities requires that they look to and balance a wide range of public and private interests that may extend well beyond a single development site. Ecosystem-based planning, involving an upfront evaluation of numerous, and often competing, land use and natural resource interests over large tracts of land (e.g., shorelines, watersheds, and subwatersheds) may provide a viable means of examining and developing site specific planning strategies that balance local, as well as community-based needs.

Through amendments to the *Planning Act* various mechanisms, including comprehensive or ecosystem-based planning processes, have been established to integrate environmental concerns such as water resources (including natural hazards, prevention of loss of life and property damage) into the land use planning process. For example, section G6.3 (Interpretation and Implementation) of the Comprehensive Set of Policy Statements, indicates that site specific environmental impact studies may not be required where detailed site development criteria have been established through a comprehensive or ecosystem-based planning process (that is on a watershed or subwatershed basis).

1.3

Great Lakes - St. Lawrence River Shorelines

Flooding

Lake level records dating back to 1860 demonstrate the variable nature of the Great Lakes. Of the two key factors influencing long-term and short-term changes in lake levels, natural factors such as rainfall, evaporation, wind, or storms cause the greater amounts of change, measured in terms of metres of change, than do human actions such as diversions and water control structures, which can be measured in terms of centimetres of change.

The most familiar changes in lake levels are the seasonal 0.6 to 1.1 metre fluctuations normally experienced during the summer and winter months. In addition to these seasonal fluctuations are short periods of significantly higher lake level changes caused by winds or storm surges which blow over the lake surfaces pushing the water to the opposite side or end of the lake. These "wind setups" have frequently caused differences of more than 4 metres in lake levels at opposite ends of Lake Erie.

More than 130 years of lake level records confirm that large, long-term lake level changes,

assumed by many to occur in "seven year cycles", actually vary up to 30 years. As such, changes in lake levels are neither regular, readily predictable, immediate or short in duration and are instead the direct influence of changes in climate and hydrological patterns across the Great Lakes Basin. Historical records further confirm that high lake levels, which normally last for months or even years, pose long-term threats to shoreline residents. These threats are often dramatically heightened when combined with wave impacts caused by storms.

Under constant debate is the ability of humans to control lake level changes. Joint Canada-USA studies on the Great Lakes have confirmed that the cost of structures to regulate lake levels far exceed the benefits to be gained. Each of these studies have recommended that governments adopt policies supported by municipal planning strategies to encourage shoreline landowners and development interests to recognize, accept and adapt to living with the lakes and their natural changes.

Flood susceptible shorelines of provincial interest are defined through the application of the Regulatory Flood Standard in policy A3.1 for the Great Lakes - St. Lawrence River System .

Erosion

Many geological, topographical and meteorological factors determine how easily a shoreline will erode. These include soil type, slope stability, bluff height, vegetation cover, shoreline orientation, coastal processes, wind and wave climate and lake level fluctuations.

Erosion is neither solely dependent on or the direct result of high lake levels. Although the rate of erosion may be greater or more visible immediately following a major storm event, erosion over the long-term is a continuous process influenced by lakeside (e.g., wave action, water levels) and landside influences (e.g., surface or subsurface drainage, loading or weight of buildings, removal of vegetation).

The reality that shorelines naturally undergo continuous change is of key importance where a decision to address erosion concerns through structural approaches is being considered. As a result, shoreline municipalities and residents need to better understand the natural processes at work along their shoreline and to ensure that selected protection works are properly designed, installed and maintained to enhance their long-term functionality and benefits.

Erosion susceptible shorelines of provincial interest are defined through the application of the Regulatory Erosion Standard in policy A3.1 for the Great Lakes - St. Lawrence River System.

Dynamic Beaches

Low-lying shoreline accumulations of sediments, including those covered and not covered by water, generally tend to undergo a continuous or "dynamic" change of form as a result of naturally occurring erosion and accretion processes. These processes can be broadly defined as the removal, movement and deposition of materials, ranging in size from fine silts to rocky cobbles, by wind, wave action and currents. It is the potential risk for damages to development

located on these "dynamic" or unstable materials that leads to their identification as matters of provincial interest.

In many cases, the existence of beach and dune landforms offers a high degree of natural protection against flood and erosion damages. For example, under high water level conditions, wave action will often erode the lakeward side of the beach and dune formations preventing the waves and floodwaters from reaching developments located landward of the beach and dune formations. As water levels later recede, these formations are naturally re-built by the ongoing wind, wave and current processes. Retaining these areas in an unaltered state, ensures that their natural ability to minimize landward flood and erosion damages is maintained.

Not all beaches are considered to be matters of provincial interest from a natural hazards perspective. Only those beaches that pose an unacceptable risk to development due to their instability or which by virtue of their size offer a natural protection to landward areas would be considered to be matters of provincial interest. The application of this policy, however, does not preclude a municipality from protecting any or all remaining areas of beach deposits which the municipality may deem to have environmental or local importance to the community.

Dynamic beach susceptible shorelines of provincial interest are defined through the application of the Regulatory Dynamic Beach Standard in policy A3.1 for the Great Lakes - St. Lawrence River System.

1.4

Ravines, River Valleys and Streams

Erosion and Unstable Slopes

Ravines, river valleys and stream corridors are dynamic systems, constantly adjusting to natural processes and human-induced influences. In addition to providing very important ecological linkages to other resource values (including natural heritage, fish habitat, wetlands, water quality and quantity, etc.), these corridors perform important hydrologic functions, including the recharge and discharge of ground water, the storage and transport of snowmelt and storm waters, and the erosion, transport and deposition of sediment.

The constant shaping and re-shaping of ravines, river valleys and stream corridors, normally described in terms of erosion and slope stability, largely depend on:

- hydraulic forces;
- fluvial geomorphic processes;
- subsurface drainage (e.g., ground water, springs, piping, blocked drainage, broken watermain);

- surface run-off (e.g., sheet, rill or gully erosion, rainfall and snowmelt);
- weathering processes (e.g., wind, frost, ice);
- increased loading on the slope (e.g., structures, filling);
- changes in slope configuration (e.g., steepness or inclination); and
- loss of vegetation.

Erosion and slope stability, although entirely different processes, are not totally independent or mutually exclusive. Erosion is normally linked to factors such as the hydraulics in a river (e.g., velocity, volume or duration of flows), surface runoff or ground water seepage. These are the same factors that play a key role in determining slope stability.

Human activities can also drastically affect the rates of erosion or slope stability. For instance, changes in land use, the hardening of surfaces, the draining of high water table areas, the removal of water retaining forest covers, and the altering of the surface topography generally lead to increased flow volumes, velocities and peak flow durations. The consequences of this may be a disruption in the natural meandering patterns of the receiving rivers and streams and an increase in bank or valley wall erosion and slope instability. Other factors which can affect erosion and slope stability may include increased loading on a slope (by placing structures, materials or debris near the crest or on the slope face), changing the drainage patterns which in turn may create higher water levels or water pressures in the soil structure (through blocked drainage, broken water mains), increasing or concentrating surface drainage over the top of the slope and/or the removal or loss of stabilizing surface vegetation.

Areas susceptible to erosion and unstable slopes of provincial interest are defined through the application of the one hundred year erosion limit in policy A3.2 for ravines, river valleys and streams

1.5

Hazardous Sites

Hazardous sites generally tend to include the following types of natural hazards:

- sensitive marine clays;
- organic soils; and
- unstable bedrock (karst formations).

Sensitive Marine Clays

Predominantly located in southeastern Ontario, sensitive marine clays (e.g., Leda clays) were formed during the existence of the Champlain Sea in the last ice age. Highly unstable under certain conditions, sensitive marine clays are a unique combination of bottom clay sediments and salt minerals from the salt waters of the Champlain Sea. The thickness of these deposits varies greatly depending on the bedrock topography and the amount of erosion that has occurred since the soil was first deposited.

Under normal conditions sensitive marine clays can appear as solid, stable soil structures. However, when these same soils become water saturated or are disturbed, they can change from a solid to a liquid form within extremely short periods of time, sometimes in minutes. In some cases, this has resulted in many hectares of land literally "flowing" into an adjacent valley. It is the potential risk for loss of life and property damage that areas of sensitive marine clays are identified as matters of provincial interest through the application of policy A3.3 for hazardous sites.

Organic Soils

Organic soils are normally formed in a water saturated environment (e.g., wetlands) where the soil is not exposed to the air for a sufficient enough amount of time to permit the break down of vegetative material. As a result, these soils may not contain sufficient strength to support a building or structure. It is the potential risk of settling and structural damage that areas of unstable organic soils are identified as matters of provincial interest through the application of policy A3.3 for hazardous sites.

Unstable Bedrock

Karst is a term applied to limestone bedrock formations where the presence and erosive action of water has caused sinkholes, trenches and subsurface caverns to be created. Most caverns occur in areas of relatively flat limestone bedrock. Where the erosive action of water has weakened the cavern walls or ceiling, sinkholes or trenches are then created. In general, present information suggests that areas of karst formations are limited to portions of Eastern Ontario and the Guelph/Rockwood/Elora area of Wellington County.

The construction of structures above these caverns, sinkholes and trenches poses a potential risk for loss of life and/or property damage should the cavern ceilings or walls collapse or fail and additional sinkholes and trenches be created. To prevent such threats it is necessary to conduct geotechnical investigations in known or expected areas of karst formations prior to permitting new development.

Areas of unstable bedrock are identified as matters of provincial interest through the application of policy A3.3 for hazardous sites.

1.6

Riverine Flood Plains

The need to manage riverine flood plain lands was emphasized in 1954 when Hurricane Hazel struck the Metropolitan Toronto area resulting in the loss of 81 lives and approximately \$75 million in property and other damages.

Since that time, many flood prone riverine areas have been protected throughout Ontario by remedial measures and efforts have been made to minimize the intrusion of new development into the more hazardous portions of flood plains.

Although flood plains have been actively managed for more than 30 years, problem areas still exist. Since the mid 1970's, major floods resulting in millions of dollars of damages have occurred in Cambridge (1974), Dover Township (1979), Field Township (1979), Nipissing River/French River area (1979), Port Hope (1990), Windsor (1981), Chatham ((1985), Dover (1985), Dresden (1985), Huntsville (1985), Fort Albany (1985), Winisk (1986) and Harrow (1990, 1991).

In 1985, Ontario experienced a record number of floods for a given year. Province wide, approximately 2,000 homes were flooded or made inaccessible by high water levels and 11,000 hectares of agricultural lands were flooded.

In addition to the loss of life, an immeasurable cost, and the direct costs from damage to buildings and structures, indirect costs and social disruption have also been extensive in certain areas. For example, after the 1979 flood in the Township of Field, many of the local residents had to be relocated because of the severe damage and destruction to their homes. The mental anguish of being flooded and the resulting social disruption of relocation are real but often overlooked aspects of flood susceptibility.

In 1988, the Province of Ontario confirmed its interest and the need to address riverine flooding hazards by adopting the Provincial Policy Statement for Flood Plain Planning under section 3 of the *Planning Act*. The policy addresses riverine flooding hazards through the application of one zone, two zone and special policy area concepts.

As part of the *Planning Act* reforms, provincial support for this existing policy statement was reconfirmed with the inclusion of riverine flood plain policies within the Comprehensive Set of Policy Statements document (policy A3.5). Consistent with the existing Provincial Policy Statement for Flood Plain Planning, policy A3.5 identifies flood susceptible riverine areas of provincial interest through the application of one zone, two zone, and special policy area concepts.

On the date of proclamation and enactment of the *Planning Act* Reforms, policy A3.5 will replace the existing Provincial Policy Statement for Flood Plain Planning. Pending the completion of revised implementation guidelines and a supporting Technical Manual as part of the *Planning Act* Reforms, the existing Implementation and Technical Guidelines (1988) will continue to provide the required information and reference materials to support the implementation of policy A3.5.

2

POLICY

Explanation and Implementation

In keeping with the goals, objectives and intent of provincial natural hazards management programs (see Appendix C), goal A3 of the Comprehensive Set of Policy Statements is:

"To ensure that development is not permitted in areas where site conditions or location may pose a danger to public safety or public health or result in property damage; and to encourage a coordinated approach to the use of the land and the management of water in areas subject to flooding in order to minimize social disruption."

The purpose of this goal is to ensure public safety and health. This is to be accomplished by minimizing risks to life, property damage, social disruption and adverse environmental impacts by ensuring a coordinated and environmentally sound approach to the wise use and management of lands susceptible to natural hazards in a manner integrated with municipal planning.

The goal emphasizes prevention. This is achieved by directing development to locations outside of or to less hazardous portions of the natural hazards areas. Where development may be considered within the less hazardous portions of the natural hazards areas care should be taken to ensure that the interests, intent and direction of other policies are not compromised (e.g., natural heritage, wetlands, fish habitat, water quality and quantity, etc. which may not permit development).

As more diverse demands exert pressure on natural resources, municipalities, resource management agencies and the public will need to work more closely together to ensure that individual decisions or interests do not have a detrimental effect on the ecosystem as a whole. The public, in general, is becoming more aware and supportive of municipal planning strategies that promote environmental protection and the wise management of our natural resources, and of their close relationship to the province's social and economic health.

2.1

Policy Explanation

Great Lakes - St. Lawrence River Shoreline

Policy A3.1.1 Regulatory Shoreline

Given the naturally occurring physical processes that are constantly shaping and re-shaping the shorelines of the Great Lakes - St. Lawrence River System, the first portion of policy A3.1.1 states that:

"On lands adjacent to the Great Lakes, their *connecting channels* and the St. Lawrence River shoreline, *development*, will generally be directed to areas outside of the *regulatory shoreline*".

The first priority of policy A3.1.1 for the Great Lakes - St. Lawrence River System is to prevent development, and ultimately people, from being threatened or placed at risk and to prevent new and/or the aggravation of existing natural hazards to existing shoreline developments and shoreline areas.

By the use of the phrase "will generally be directed to areas outside of the regulatory shoreline", it is more desirable to direct development to locations outside of flood, erosion and/or dynamic beach vulnerable shorelines (that is, the regulatory shoreline) than it is to react to the processes that lead to the natural hazards at a later date. In doing so, municipalities and planning boards prevent the creation of new threats to life and property and the aggravation of existing threats to life and property. Where municipalities and planning boards have developed municipal planning strategies that address these risks by siting development outside of natural hazard vulnerable shorelines, they have also reduced the remediation and maintenance costs associated with protecting vulnerable shoreline development and have minimized the costs and potential impacts of social disruption normally experienced during emergency situations.

Directing development to areas outside of the regulatory shoreline may not always be necessary. Although it is not recommended, there may be situations where it may be possible to safely locate development within natural hazard susceptible shorelines. These developments should only be considered where they properly address the physical hazards and are undertaken in an environmentally sound manner. For instance, shorelines that are susceptible to shallow flooding and are exposed to little or no wave action, may be able to properly address the natural

hazards in an environmentally sound manner by applying non-structural and structural protection measures (e.g., elevation of the land, floodproofing, etc.) such that the development can safely occur within the regulatory shoreline. Where such developments are considered in a flood susceptible shoreline, one of the key imperatives of policy A3.1 is that people and vehicles are assured a way of safely entering and exiting the area under emergency flood situations (policy A3.1.3). Where this assurance cannot be provided, the development should be directed to areas outside the regulatory shoreline.

In addition to clarifying the overall objective or intent of the policy for the Great Lakes - St. Lawrence River System, the second portion of policy A3.1.1. identifies the policy standards to be applied in defining and delineating the "areas of provincial interest" by stating that:

"The regulatory shoreline is comprised of three standards: the regulatory flood standard, the regulatory dynamic beach standard, and the regulatory erosion standard".

Please see **Figure 1**.

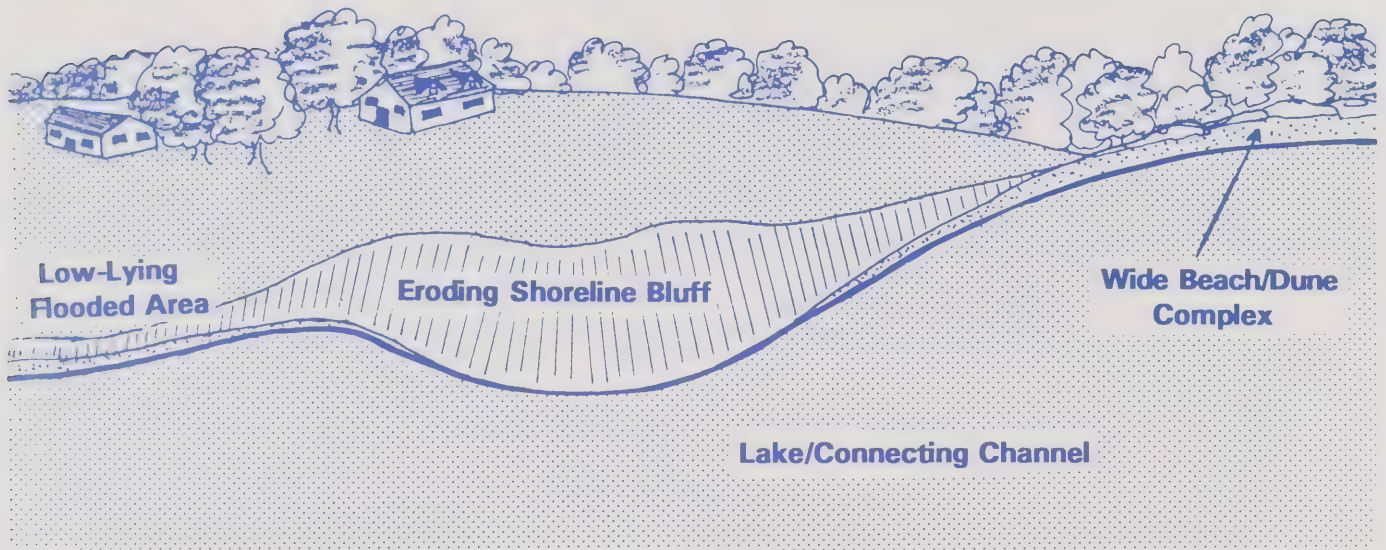
By definition, the "regulatory shoreline" is defined as the furthest landward limit of the three shoreline natural hazards standards:

- **Regulatory Flood Standard** which by definition is based on the combined influence of:
 - **lake levels** combination of stillwater (naturally occurring lake levels) and wind setups (influence of storm surge and seiche);
 - **wave uprush** the landward extent that water and wave action extends or rushes up onto a shoreline including wave runoff and wave setup; and
 - **other water related hazards** based on, but not limited to, the combined influence of ice, ice piling, ice forces, wave spray, wave overtopping, and ship generated waves.

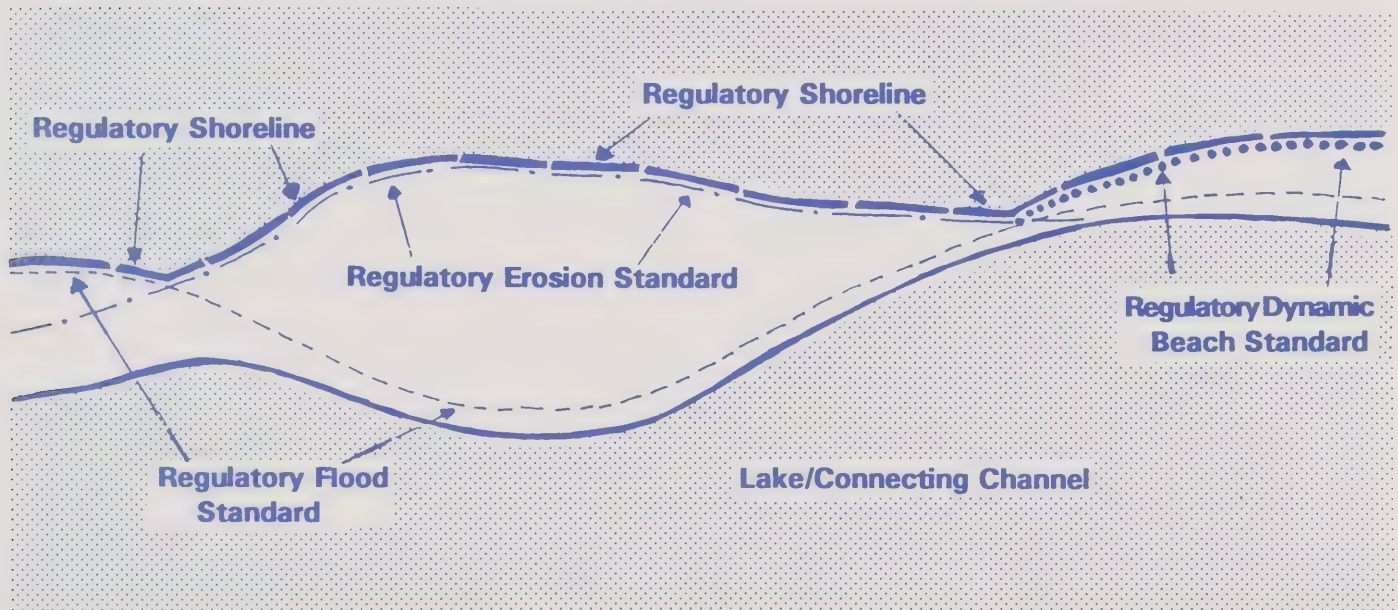
FIGURE 1: Regulatory Shoreline

FIGURE 1: Regulatory Shoreline

a) 3-D View of the Shoreline



b) Topographic View of the Shoreline



- **Regulatory Dynamic Beach Standard** which by definition is based on the combined influence of:
 - **flooding** landward extent of lake levels and wave action extends or rushes up onto the shoreline; and
 - **dynamic beach allowance** that portion of the shoreline that is unstable and/or dynamic and may contain naturally protective dune features.
- **Regulatory Erosion Standard** which by definition is based on the combined influence of:
 - **stable slope** natural angle a slope would achieve in the absence of toe erosion and/or human activities (including landside/lakeside influences); and
 - **recession** rate of landward retreat or movement of a shore slope resulting from toe erosion and/or human activities (including landside/lakeside influences); or
 - **erosion allowance** distance measured landward from the first lakeward break in slope to accommodate long term erosion forces and processes.

As previously indicated, given that multiple combinations of one, two or all three of these natural hazards may be impacting on a shoreline, the regulatory shoreline, by definition, will extend to the furthest landward limit of the regulatory flood standard, the regulatory dynamic beach standard and the regulatory erosion standard (Figure 1).

The regulatory shoreline, by definition, also extends lakeward to the international boundary or to the lakeward jurisdictional limit of the implementing agency. In doing so, development proposals involving structures or landform modifications lakeward of the water's edge (e.g., marinas, groynes, docks, dredging, offshore breakwaters, etc.) may be evaluated as part of policy implementation under the *Planning Act* or under the jurisdiction of complimenting legislation administered by other shoreline agencies (e.g., Fill, Construction and Alteration to Waterways Regulations under the *Conservation Authorities Act*, *Lakes and Rivers Improvement Act* (MNR), *Public Lands Act* (MNR)). This is to ensure that municipal planning strategies and those of supporting shoreline agencies give due consideration to the potential impacts of such structures or activities and to their potential physical and environmental impacts on adjacent shoreline areas.

Policy A3.1.2 Restrictions on Shoreline Development

Although development "will generally be directed to areas outside of the regulatory shoreline", there may be situations where the natural hazard(s) may be addressed such that development may safely be located within the regulatory shoreline. However, there are shorelines where development should simply not be permitted due to the instability of the shoreline, the

unacceptable risk or threat to life and property and/or the unacceptable adverse impacts that would result on the shoreline ecosystem.

Policy A3.1.2 states that:

"Development₃ will not be permitted within:

- a) the *regulatory dynamic beach standard*;
- b) the *regulatory flood standard* within the *defined portions of the one hundred year flood level along the connecting channels*; and
- c) the *regulatory shoreline* where the area is to be used for *institutional uses or essential emergency services* or for the disposal, manufacture, treatment or storage of *hazardous substances* and/or sewage."

Development₃, as defined in the Comprehensive Set of Policy Statements "means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill".

Development within the regulatory dynamic beach standard is not considered to be suitable for a number of reasons. These include the inherently unstable nature of dynamic beaches, the unacceptable threat and risks to life and property for development within dynamic beaches, and the potential for extensive adverse environmental impacts should development occur. Past experience has clearly demonstrated that maintaining dynamic beaches in their natural state provides an often immeasurable financial benefit. By siting development in locations landward of the regulatory dynamic beach standard, municipalities have naturally protected these developments from the destructive forces of shoreline flooding and erosion.

Similarly, development within defined portions of the connecting channels is also not considered to be suitable due to the severity of the flood hazards and the potential risk to life and property. The connecting channels provide the single most important means of reducing high flood levels in upstream lakes. This is particularly important as records show that flood levels on the Great Lakes can and have remained high for months, and in some cases, years. Where the flow of flood waters through the connecting channels are impeded by structures, people and

developments upstream, downstream and on both sides of the border are placed at increased risk. This is particularly true where the connecting channels are narrow, where they are frequently subject to ice jamming problems, or where existing developments are already exposed to flood threats. Given provincial obligations to not increase flood risks on the United States side of the connecting channels, and provincial interests in not creating new flood hazards nor in aggravating existing flood hazards on adjacent lands, development within the defined portions of the one hundred year flood level along the connecting channels is not considered to be acceptable.

Finally, there are some types of development which could pose an unacceptable threat to public safety if damaged or impacted by flooding and/or erosion forces. These include:

- **institutional uses** - those uses associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools where there is a significant threat to the safe evacuation of the sick, the elderly, the physically challenged or the young during an emergency as a result of flooding, failure of floodproofing measures and/or protection works, and/or erosion;
- **essential emergency services** - services such as those provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as a result of flooding, the failure of floodproofing measures and/or protection works, and/or erosion; and
- **hazardous substances**, including their disposal, manufacture, treatment or storage and/or sewage, which by definition refer to substances which individually, or in combination with other substances, are normally considered to pose a danger to public health, safety and the environment. These substances generally include a wide range of materials that are toxic, ignitable, corrosive, reactive, radioactive, or pathological.

For these reasons, these types of development should not be permitted within any portion of the regulatory shoreline.

Policy A3.1.3 Standards Where Shoreline Development Is Considered

As previously identified, the overall guiding position of policy A3.1.1 is that development "will generally be directed to areas outside of the regulatory shoreline". However, there may be some situations where municipalities and planning boards may wish to consider development within the less hazardous portions of the regulatory flood standard and/or regulatory erosion standard.

To provide for this flexibility, policy A3.1.3 outlines several requirements which must all be fulfilled for municipalities and planning boards to permit any form or type of development to take place within the regulatory flood standard and/or regulatory erosion standard.

"Development₃ may be permitted in areas within the regulatory flood standard and regulatory erosion standard where:

- a) the flooding and erosion hazards can safely be addressed;*
- b) new or existing hazards are not created or aggravated;*
- c) no adverse environmental effects will result;*
- d) vehicles and people have a way of safely entering and exiting the area during times of flooding and erosion emergencies; and*
- e) development₃ is carried out in accordance with established standards and procedures."*

Inclusion of policy A3.1.3 is intended to provide the flexibility to recognize local conditions. When applying this flexibility, care must be taken to ensure that the magnitude or degree of risk(s) is clearly understood, that the potential or feasibility for development to safely locate within certain portions of these areas is justifiable, and that the standards to be met prior to the approval and siting of development within these shoreline areas are sound, reasonable and can be implemented.

Care must also be taken to ensure that the interests and intent of other policies addressing the same shoreline areas are not compromised (e.g., natural heritage, fish habitat, wetlands, water quality and quantity, etc. which may not permit development).

In providing this flexibility, it is expected that municipal planning documents will clearly identify the requirements by which development may be considered consistent with policy A3.1.3. In addition to the criteria identified in policy A3.1.3 (a) to (d), criteria (e), referring to "established standards and procedures", by definition, relates to the standards of floodproofing, protection works and access. The intent of these conditions is to promote public safety and to minimize risks to life, property damage, adverse environmental impacts and social disruption. Where all of these conditions and standards cannot be fulfilled, the development should be directed to areas outside the regulatory flood standard and/or the regulatory erosion standard.

When applying policy A3.1.3 a number of complicating planning issues may arise. For example, municipalities and planning boards may need to develop strategies to deal with existing lots of record or with additions and alterations to existing development. In some shoreline municipalities, development applications involving structures or buildings which by the nature of

their use are normally located in close proximity to or within the water (e.g., water intake structures, marinas, boathouses, utilities, etc.) may also require a more detailed evaluation. In each of these cases, consultation with the local conservation authority and the Ministry of Natural Resources may assist municipalities and planning boards in determining the potential risks associated with the various municipal planning strategies that may be under consideration or applied. In all of these situations, regardless of the planning issue being evaluated, the overall intent of the policy, to minimize the potential risk to life and property, is to be preserved.

Ravines, River Valleys and Streams

Policy A3.2 One Hundred Year Erosion Limit

Ravines, river valleys and streams, usually characterized by their landforms, features and functions, are dynamic systems constantly under adjustment in response to changes within the watershed. From a physical perspective, ravines, river valleys and streams evolve into one of two basic landforms: 1) well-defined; and 2) ill-defined. For purposes of clarification, these can then be further sub-divided into four distinct features based on the evidence of erosion or the width of the valley floor (see **Figure 2**):

1. well-defined system with the toe exposed;
2. well-defined system where the valley floor, between the toe of the slope and the toe of the bank, is less than or equal to 15 metres in width;
3. well-defined system where the valley floor, between the toe of the slope and the toe of the bank, is greater than 15 metres in width; and
4. ill-defined system.

In determining where and under what conditions development may occur within each of these four general ravine, river valley and stream features, policy A3.2, which defines the area of provincial interest, states that:

"Development, adjacent to ravines, river valleys and streams should be restricted within the one hundred year erosion limits."

For the purposes of this policy, development means the "construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof, and includes such related activities as site grading and the placing or dumping of fill".

FIGURE 2: Ravines, River Valleys and Streams

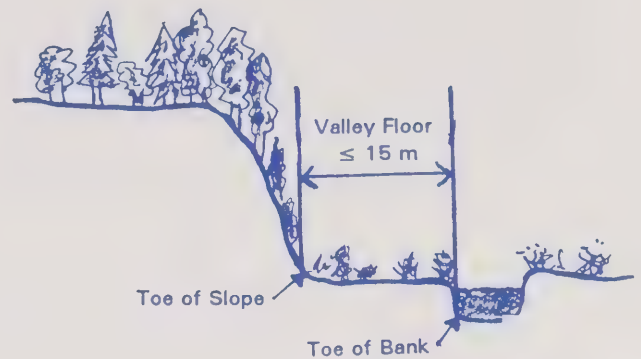
1) Well-Defined System

Toe Exposed



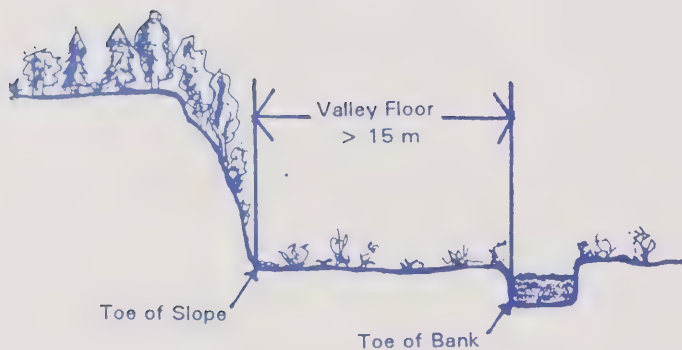
2) Well-Defined System

Valley floor ≤ 15 Metres



3) Well-Defined System

Valley floor > 15 Metres



4) Ill-Defined System



Policy A3.2 defines those portions of ravines, river valleys and streams that are subject to erosion and slope instability, and as such are of provincial interest, based on the one hundred year erosion limit. By definition, the one hundred year erosion limit is based on the combined influence of:

- **Stable Slope Allowance** is an allowance for the angle a slope would achieve when toe erosion and/or human activities are absent;
- **100 times the Average Annual Recession Rate** refers to one hundred times the average annual linear landward retreat of the ravine, river valley or stream corridor;
- **Erosion Allowance** depending on the ravine, river valley or stream system, the allowance may include the toe erosion allowance, erosion protection allowance, meander belt and/or the regulatory flood level (riverine).

Within the two basic landforms for ravines, river valleys and streams, the components which may be used to determine the one hundred year erosion limits include:

- well-defined system
 - 100 times the average annual recession rate or an allowance for toe erosion
 - stable slope allowance
 - erosion protection allowance
- ill-defined system
 - regulatory flood level (riverine)
 - meander belt
 - erosion protection allowance

Policy A3.2 states that development should be "restricted" within the one hundred year erosion limit. For the purpose of clarification, given the risk to life and property damage associated with siting development within the one hundred year erosion limit, the first priority in "restricting" development is to limit development within the one hundred year erosion limit to:

- flood and/or erosion works (e.g., revetments, weirs);
- facilities which by their nature must locate near water or traverse watercourses (e.g., bridges, stream gauges);
- ancillary facilities of an adjacent land use which are of a passive, non-structural nature and do not adversely affect the ability of the flood plain to pass flood waters (e.g., parkland).

There are some types of development, however, which could pose an unacceptable threat to public safety if damaged or impacted by erosion forces and as such, should not be permitted within any portion of the one hundred year erosion limit for any ravine, river valley or stream. These include:

- institutional uses;
- essential emergency services; and
- hazardous substances.

Although the first priority of policy A3.2 is to restrict development within the one hundred year erosion limit, there may be some situations where it may be possible to safely locate development within the less hazardous portions of the one hundred year erosion limit. In those few situations where development may be considered, care needs to be taken to ensure that the interests and intent of other policies are not compromised (e.g., natural heritage, fish habitat, wetlands, water quality and quantity, etc. which may not permit development). Where development may be considered, the development should be "restricted", that is not permitted, where the following requirements cannot all be fulfilled:

- a) the erosion and/or slope instability hazards can safely be addressed;
- b) new or existing hazards are not created or aggravated;
- c) no adverse environmental impacts would result;
- d) vehicles and people have a way of safely entering and exiting the area during times of emergencies; and
- e) development is carried out in accordance with established standards and procedures (e.g., protection works, etc.).

The intent of these requirements is to promote public safety and to minimize risks to life, property damage, adverse environmental impacts and social disruption. Where all of these conditions cannot be fulfilled, the "restricted" development should be directed to areas outside the one hundred year erosion limits.

When applying policy A3.2 a number of complicating planning issues may arise. For example, municipalities and planning boards may need to develop strategies to deal with existing lots of record or with additions and alterations to existing development. In some municipalities, development applications involving structures or buildings which by the nature of their use are normally located in close proximity to or within the water (e.g., water intake structures, utilities, etc.) may also require a more detailed evaluation. In each of these cases, consultation with the local conservation authority and the Ministry of Natural Resources may assist municipalities and

planning boards in determining the potential risks associated with the various municipal planning strategies that may be under consideration or applied. In all of these situations, regardless of the planning issue being evaluated, the overall intent of the policy, to minimize the potential risk to life and property, is to be preserved.

Hazardous Sites

Policy A3.3 Unstable Soils and Unstable Bedrock

Given that the first priority of Goal A3 is to prevent development, and ultimately people, from being threatened or placed at risk from natural hazards, policy A3.3 states that:

"Development₃ will be permitted on a hazardous site only if the site is/has been rehabilitated to remove or mitigate the hazard so that there is no remaining danger to public health or public safety or property damage."

A "hazardous site" refers to "property or lands that have not been rehabilitated, which for reasons of public health, safety, or potential damage, could be unsafe for development as a result of natural hazards". By definition, a hazardous site includes sensitive marine clays (e.g., Leda clays), unstable organic soils, and unstable bedrock (e.g., karst formations).

Defining the physical size, location and level of risk associated with each of the four basic types of hazardous sites will depend on one or more of the following factors:

- toe erosion;
- slope stability;
- soil structure;
- bedrock material.

For example, defining the area of provincial interest for sensitive marine clays (e.g., Leda) will be based on a stable slope standard and/or a toe erosion allowance. Alternatively, as with all four of the basic types of hazardous sites, the area of sensitive marine clays may also be defined by a study using accepted geotechnical and engineering principles and practices.

For the purposes of this policy, as with all other policies related to natural hazards, development refers to "construction, erection or placing of a building or structure of any kind; or

the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof, and includes such related activities as site grading and the placing or dumping of fill".

Policy A3.3 states that development will only be permitted on a hazardous site where the natural hazard has been "rehabilitated to remove" or "rehabilitated to mitigate" the hazard(s). By definition, "rehabilitated to remove" means that the hazard(s) has either been totally removed from the site, that is, physically extracted and relocated offsite, or that the concerns related to public health, safety and property damage have been addressed such that the hazard(s) or threat(s) no longer exist. Confirmation that the hazard(s) has been removed and the threats to public health, safety and property damage no longer exists must be substantiated through a study using accepted geotechnical and engineering principles and practices prior to development being considered within the hazardous site.

To be "rehabilitated to mitigate" means that the hazard(s) cannot be totally removed, however, the level of risk can possibly be reduced. In some cases, this may be achieved through the installation of protection works. Confirmation that the hazard(s) has been mitigated must be substantiated through a study using accepted geotechnical and engineering principles and practices. Where a study has been undertaken to mitigate a hazard(s), the study will need to confirm the measure(s) to be taken to "mitigate" or reduce the hazard(s) and to confirm the remaining or reduced level of risk.

As previously stated, the first priority of policy A3.3 is to minimize risks to life and property within a hazardous site. Where the natural hazard(s) have only been "mitigated", that is, not totally removed:

- development should be directed to a location outside of the defined area of mitigated hazard(s);
- development within the hazardous site should be limited to:
 - flood and/or erosion protection works;
 - facilities, which by their nature, must be located near water or traverse watercourses.

There are some types of development, however, which could pose an unacceptable threat to public safety and public health if damaged or impacted by those natural hazards found within "hazardous site" and as such, should not be permitted within any portion of the "hazardous site". These include:

- institutional uses;
- essential emergency services;
- hazardous substances.

Although the first priority of policy A3.3 is to limit development within a hazardous site, there may be some situations when it may be possible to safely locate development within the less hazardous portions of the hazardous site. In those few situations where development may be considered, care needs to be taken to ensure that the interests and intent of other policies are not compromised (e.g., fish habitat, natural heritage, wetlands, water quality and quantity, etc. which may not permit development). Where development may be considered, the following requirements should be addressed:

- a) the erosion and/or instability hazards can safely be addressed;
- b) new or existing hazards are not created or aggravated;
- c) no adverse environmental impacts would result;
- d) vehicles and people have a way of safely entering and exiting the area during times of emergencies; and
- e) the development is carried out in accordance with established standards and procedures (e.g., Ontario Building Code, protection works, etc.) where appropriate.

The intent of these requirements is to promote public safety and to minimize risks to life, property damage, adverse environmental impacts, and social disruption. Where all of these requirements, where applicable, cannot be fulfilled the development should not be permitted to locate within the hazardous site.

Riverine Flood Plains

Policy A3.5 Riverine Flooding

Flood susceptible riverine environments are recognized as areas of natural hazards and a component of the ecosystem by their inclusion in this document. Adopted in 1988, the existing Provincial Policy Statement for Flood Plain Planning has been reconfirmed and included in the Comprehensive Set of Policy Statements under policy A3.5. With proclamation and enactment of the Planning Act Reforms, the existing Provincial Policy Statement (1988) will be superseded by policy A3.5.

Flexibility to address riverine flood susceptibility will continue to be provided through the application of the one zone, two zone and special area concepts outlined in policy A3.5. Pending the completion of revised Implementations Guidelines as part of the Planning Act Reforms, the existing Implementation and Technical Guidelines (1988) accompanying the Provincial Policy Statement for Flood Plain Planning will apply.

2.2

Implementation Approaches

The *Planning Act* establishes a planning process which sets out a distinct framework for the development of environmental, social and economic goals and objectives for a planning jurisdiction. Given the importance of ensuring public safety and of maintaining healthy ecosystems, the management of human activities is an essential consideration in any land use planning process. Land use planning and the regulation of development provides a preventative approach which is very important to the overall success of natural hazards management.

Effective implementation of the provincial natural hazards management programs and policies requires that proposed development be reviewed and the potential impacts on the physical and ecological processes be assessed. Where appropriate, protection and/or emergency response measures should also be developed (e.g., non-structural and/or structural protection works, relocation, emergency response plans).

In implementing policies related to natural hazards, a proactive, comprehensive policy approach is preferred. The establishment of appropriate policies in official plans is one of the most effective mechanisms for preventing problems and reducing remediation and maintenance costs.

To satisfy the intent of these policies, natural hazards concerns should be addressed through all stages of planning and development control. Official plans should include statements of general intent, consistent with provincial policy, that address natural hazard concerns and the municipal policy approaches which will achieve them at the various stages of development control. Zoning by-laws need to conform to the official plan and implement its policies in a consistent manner. Natural hazards concerns also need to be addressed at other stages of the planning process (e.g., subdivision controls, site plan controls, consents and minor variances).

Existing planning documents should be revised to reflect the natural hazards policies as information becomes available and at the time of scheduled reviews and/or updates. Municipalities and planning boards are encouraged to incorporate the provisions of these policies as soon as possible, by amendment to their official plans and zoning by-laws. It is important that any changes made to official plans which incorporate the provisions of policies related to natural hazards be carried through to amendments to comprehensive and site-specific zoning by-laws for them to be enforceable.

In conjunction with the general direction provided above, the following matters should be reflected in municipal land use planning documents or decision-making processes:

- the ability of present and future generations to enjoy the benefits provided by healthy shoreline and watershed ecosystems should be maintained and where possible enhanced;

- flooding, erosion, dynamic beaches, unstable slopes, unstable soils, and unstable bedrock, where applicable along or within shorelines, ravines, river valleys, or streams, are naturally occurring processes highly influenced by local conditions. When addressing these physical processes from an ecosystem perspective, the local physical and ecological processes may need to be retained in an undisturbed state to the greatest extent possible and possibly, enhanced, to sustain the overall health of shoreline and watershed ecosystems;
- some physical (e.g., soil type, hydraulics, sediment movement, etc.) and ecological processes (e.g., aquatic habitats, natural heritage ecosystems, etc.) are more sensitive to the effects of development activities than others and therefore, may warrant greater protection from these activities;
- the degree of risk or threat to public safety and health (e.g., life and property damage, emergency evacuation) can vary from one shoreline to another and one watershed or watercourse reach to another. The potential for development to safely occur may exist in some shorelines, watersheds and/or watercourse reaches and may be too hazardous in others;
- the hierarchy of options in addressing natural hazards concerns include prevention, protection (non-structural and structural) and emergency response measures (see Appendix C). A combination of these options is often required to properly address issues of public safety and health and to protect the overall health and integrity of the shoreline and watershed ecosystems;
- effective natural hazards management can only occur on a comprehensive shoreline (e.g., littoral cell or shoreline sediment compartment) or watershed/subwatershed basis. Therefore, site-specific development activities need to be evaluated in the context of their potential impact on the overall physical and ecological processes occurring within the defined shoreline or watershed management planning area;
- our understanding of how development activities affect naturally occurring physical and ecological processes is based on the science currently available. This science is constantly evolving. A cautious approach would avoid risks or threats to public safety and health, ensure the long term sustainability of these processes, and maximizes their social, cultural and economic benefits.
- it is more effective and less costly to anticipate and prevent risks or threats to public safety and health and to protect the overall health and integrity of the shoreline and watershed ecosystems than it is to correct problems after they occur;

- where development activities may cause new or aggravate existing physical hazards or adverse environmental impacts, the development activities should address these concerns in an engineering and environmentally sound manner. When addressing issues related to health and safety a combination of prevention, protection (non-structural and structural) and emergency response measures should be considered (passive works will be given preference);
- where development activities are considered within areas of natural hazards, the potential impacts on physical and ecological processes are to be given equal consideration in any decision-making process. For example, development activities that properly address the physical processes, yet will likely cause adverse ecological impacts or vice versa are not in keeping with the provincial interest of protecting the health and integrity of the shoreline and/or watershed ecosystems; and
- that natural hazards designations outlined in municipal land use documents are based on information and studies that existed at the time of preparation and are referenced in the document. In the event that a change to the designation is proposed, it is the responsibility of the applicant or proponent to justify the change.

Official Plans

Municipalities and planning boards are to develop policy and planning tools, such as official plans, in a manner consistent with the Comprehensive Set of Policy Statements when addressing natural hazards (policies A3.1, A3.2, A3.3 and A3.5).

In keeping with the overall intent of the policies addressing natural hazards, the policy framework established through the official plan should:

- Include a goal statement.** The official plan should include a goal statement recognizing the importance of addressing the natural hazards in an environmentally sound manner to ensure that people and property are not placed at risk or threat from inappropriate or incompatible land uses and activities. Policies should reflect the commitment of the municipality or planning board to minimizing the risk or threat to public safety and health, and to maintaining, and where possible enhancing, the productive capacity of the shoreline and/or watershed ecosystem (e.g., aquatic, biotic and terrestrial systems).

Care should also be taken when preparing the official plan to ensure that the interests and intent of other policies addressing the same areas are not compromised (e.g., natural heritage, fish habitat, wetlands, water quality and quantity, etc.).

Municipalities and planning boards are encouraged to establish goals, objectives, principles and policies that:

- recognize the importance of minimizing the risks and threats to public safety and health (that is, life and property);
- promote a coordinated approach to the use of land and the management of shoreline and watershed physical and ecological processes; and
- recognize the importance of maintaining, and where possible enhancing, healthy shoreline and watershed ecosystems for the long-term social, economic, environmental and cultural benefits of present and future communities and residents within the planning jurisdiction.

ii) Identify planning controls and mechanisms. The official plan should confirm what planning controls and mechanisms will be applied, consistent with the policies addressing natural hazards and the shoreline and watershed management planning processes to achieve policy implementation. Care needs to be taken to ensure that the selected planning controls and mechanisms are and can be implemented through all levels of the policy framework (including, but not limited to the zoning by-law, official plan amendments, subdivision control, minor variances).

iii) Include specific policy provisions. All official plans and major official plan amendments should include specific provisions that clarify and confirm where and under what requirements development activities and/or land use changes may or may not be considered. As a minimum, all official plans and major official plan amendments should:

- provide background studies regarding the natural hazards and indicate the municipality or planning board's intention to minimize the risks to life, property damage, social disruption and adverse environmental impacts in relation to the protection of the health and safety of the population and the ecosystem (section 2, *Planning Act*);
- define the natural hazards in a separate designation on the land use schedule or written descriptions in the text or a combination of the two;
- identify those portions of the natural hazards where development should not be permitted;
- identify those portions of the natural hazards, specifically the least hazardous portions, where development may be permitted and under what specific requirements; and
- outline the implementation mechanisms intended to address the natural hazards in comprehensive zoning by-laws and other planning tools provided for under the *Planning Act*. These may include mechanisms such as holding by-laws, bonusing provisions, interim control by-laws, plans of subdivision, consents and site plan control.

Where no official plan exists, it is recommended that the natural hazards be identified on schedules within the comprehensive zoning by-law or minister's zoning order. Where no official plan or

comprehensive zoning by-law exists, the policies addressing natural hazards should be implemented through the development review process.

This implementation guideline describes two different policy approaches that can be applied through the official plan:

- No Development Designation;
- Possible Development Designation.

No Development Designation

The "no development designation" is the most restrictive option in that development is not permitted within any part of the natural hazards area. This should be supported by a no development designation in the comprehensive zoning by-law and appropriate mechanisms to preclude a zoning by-law amendment from permitting development and compromising the intent of the official plan no development designation.

The reason for selecting the "no development designation" may be that the natural hazards are perceived to be too severe to safely permit development or that municipal technical, administrative, staffing or financial resources preclude the implementation of more complex planning mechanisms. Where this option is used the official plan should designate the area of natural hazards as "hazard land", "open space", "environmental protection", or some other similar non-development designation. Where alternative designations such as "rural" or "agricultural" are used, the policies in the official plan should specifically prohibit the placement or removal of fill, and prohibit or limit buildings or structures, while at the same time identifying which land use practices, if any, may be considered appropriate within the area of natural hazards (e.g., crop rotation, pasture).

Under a "no development designation", the only structures normally permitted within natural hazard areas are those required for flood and/or erosion protection (that is, to protect existing developments) or those related to federal, provincial or regional infrastructure (e.g., pipelines, roadways, hydro crossings, sanitary sewers, storm sewer outfalls). Municipalities and planning boards are encouraged to establish the various permitted uses within these designations in their official plan.

Under a "no development designation", where the intent is to prohibit development but at the same time recognize existing buildings, structures and infrastructure located within the natural hazards area, a notwithstanding clause could be included in the comprehensive zoning by-law or minister's zoning order implementing the official plan. In either case, the comprehensive zoning by-law or minister's zoning order implementing the official plan should also state that no enlargements, extensions or changes in their use will be permitted or will only be permitted under exceptional circumstances.

Possible Development Designation

The "possible development designation", unlike the "no development designation", recognizes that there are certain less hazardous portions of the natural hazards area which may be developed under certain circumstances. To preclude any false expectations of development potential, care needs to be taken when using this designation to ensure that the official plan policies clearly state that development will not be permitted within the more hazardous portions of the natural hazards area, or where institutional uses, essential emergency services and hazardous substances are proposed.

Three approaches that may be used to permit development within the developable portions of the natural hazards area including: a) flexible hazard land; b) development constraint or overlay; and c) engineered constraint.

a) Flexible Hazard Approach (no or restricted development)

This approach is normally applied in rural or agricultural areas where little, if any, technical information exists and where development pressure is limited. At the same time, municipalities and planning boards are needing to address public safety concerns, minimize risks of potential damage and preclude any false expectations of where and under what limited circumstances development may be considered (Figure 3).

In applying this approach, the overall intent, due to a lack or inaccurate level of technical information, is to prohibit development within the natural hazards areas or to limit development to those buildings or structures which by the nature of their use need to be located within the natural hazards area (e.g., flood and/or erosion protection works). Under this approach, natural hazards are defined based on air photo interpretation or large scale mapping which themselves are so general in nature that the official plan cannot accurately reflect the actual, on-the-ground extent of the natural hazards. For this reason, this approach should not be applied where development is actively proceeding. Changes to the natural hazards boundary should be permitted only when sufficient information is provided (e.g., more detailed hazard mapping, site specific studies).

To provide for flexibility, an official plan amendment is not necessarily required for a boundary change. However, an amendment to the official plan, comprehensive zoning by-law, and/or minister's zoning order, where applicable, should be required where the intent is to change from a "hazard land" designation to a land use category other than the abutting category.

The text of the official plan and supporting comprehensive zoning by-law should confirm the method(s) used to define the natural hazards, the uses to be permitted, and how the policies are to be implemented. Permitted uses should be very limited and usually restricted to agriculture, conservation and non-structural recreational uses. All buildings and structures, unless used for flood and/or erosion protection purposes, and all development which requires landform modification (e.g., parking lots) should not be permitted.

FIGURE 3: Flexible Hazard Approach

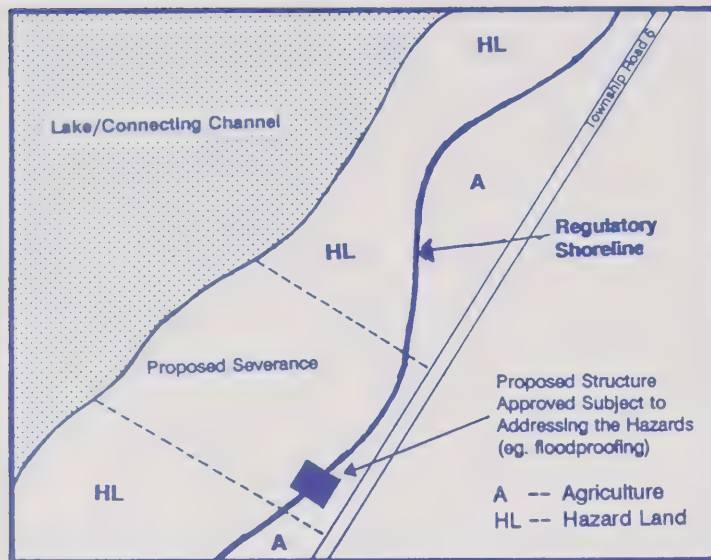
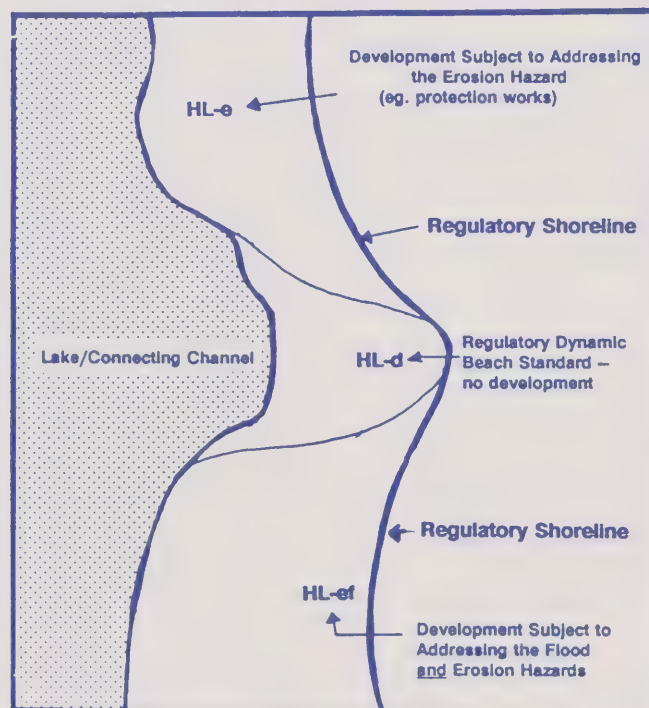
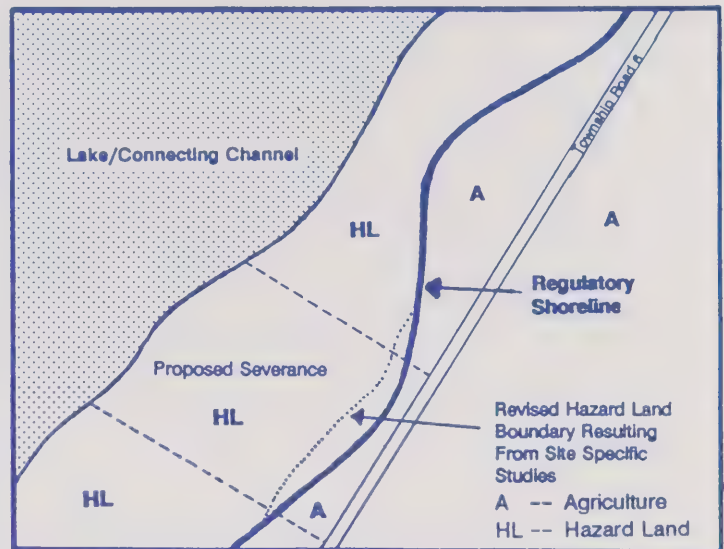


FIGURE 4: Development Constraint (Overlay) Approach



b) Development Constraint or Overlay (development permitted)

This approach is normally applied in rural or small settlement areas where there is flexibility in the location of development and where the supporting technical information exists to enable a municipality or planning board to establish development standards by which development can safely be located within the less hazardous portions of the natural hazards area (Figure 4).

By overlaying the existence of natural hazards onto the official plan land use schedule, this approach clearly shows the intended underlying land use and clearly states the standards by which development may occur.

Where this approach is applied, the official plan and implementing comprehensive zoning by-law need to clearly state that the underlying land use designation can only be implemented if and when the development constraint can be addressed in an environmentally sound manner.

A zoning by-law amendment, to bring the zoning in conformity with the underlying official plan designation (e.g., to recognize a flood hazard) may not be required if the applicable requirements for development (e.g., floodproofing, protection works, access requirements, etc.) have been satisfied. Where municipalities and planning boards have determined that development cannot be safely located in an environmentally sound manner within certain portions of the natural hazards area, an implementing "no development designation" in the comprehensive zoning by-law, and appropriate mechanisms to preclude a development-permissive by-law amendment, need to be established.

c) Comprehensive Constraint (Development permitted)

This approach is normally applied in urban or developing areas where greater certainty is required in determining the degree of risk and the technical standards to be applied to ensure the safe siting of development within the natural hazards area. In addition, this approach requires that the municipal administrative, technical expertise and financial resources are sufficient to support its implementation. Use of this approach in shoreline areas, for example, would necessitate that detailed information on the natural hazards such as flooding (e.g., engineered flood lines, precise information on other water related hazards), erosion (e.g., recession rates, soil composition), and dynamic beaches (e.g., definition and extent) is in existence and routinely updated (Figure 5).

Where this approach is applied, through the official plan policies and implementing comprehensive zoning by-laws, municipalities and planning boards would precisely indicate those portions of the natural hazards area where development may be considered and under what conditions; conversely, portions of the natural hazards area deemed unsuitable for development could also be addressed.

For that portion of the natural hazards area where development is deemed to be appropriate, the official plan land use schedule and implementing comprehensive zoning by-laws would precisely designate the intended use (e.g., "industrial", "commercial", "residential"). In addition

to outlining the policies for these land use designations, the documents would also indicate that, for any development which may be permitted in the natural hazards area, any and all applicable development requirements (e.g., floodproofing, protection works, access requirements) need to be fulfilled prior to development approval.

For those portions of the natural hazards area where the hazards are deemed to be too severe to permit development, the official plan land use schedule and implementing comprehensive zoning by-law would precisely designate these lands in a constraint category (e.g., hazard land, environmental protection, open space) wherein development, including landform modifications such as site grading, would not be permitted.

It is recognized that the natural hazards areas may already be zoned for the intended uses with no indication of development requirements (e.g., floodproofing, protection works, access (ingress/egress)). In these situations, where a conservation authority exists, these requirements may be specified through the permit process under their Fill, Construction and Alteration to Waterways Regulations (where in place).

Comprehensive Zoning By-Laws

Comprehensive zoning by-laws that identify the natural hazards provide clear direction to existing and future landowners on any development requirements or restrictions that may apply to the use of their lands. Official plan policies, however, can be rendered virtually useless if the existing zoning permits development that is not consistent with the official plan policies relating to natural hazards.

Zoning by-laws are the legal documents which set out the precise and specific manner in which land may be used. They should provide clear direction in terms of:

- redirecting development to areas outside of natural hazards deemed too hazardous or environmentally sensitive for development;
- regulating hazard allowances or setbacks to accommodate the natural hazards or other environmentally sensitive features;
- requiring specific natural hazards mitigation measures, where permitted and appropriate, to be incorporated into the design of any buildings or structures (e.g., floodproofing, protection works, access requirements); and
- restricting any specific land use or groups of land uses within a defined area of natural hazards.

Similar to official plan approaches, the options for comprehensive zoning by-laws vary widely. A comprehensive zoning by-law approach for a particular natural hazards area will need to

examine matters including, but not limited to, site-specific physical and ecological characteristics, the types of development to be permitted, and the potential cumulative impacts associated with the development activities when determining the appropriate development requirements to be applied. Where existing official plans and/or comprehensive zoning by-laws do not address natural hazards or where these documents do not exist, the policies addressing natural hazards should be implemented through the development review process.

The following subsections describe five possible zoning approaches available to municipalities and planning boards which may be used individually or in combination:

Use of a Specific Zoning Category

This approach is recommended where the intent is to prohibit development within the natural hazards area using a separate zoning category. The category could be called a "hazard land" although other category titles such as "open space", "environmental protection", or "protection" could also be used. Regardless of the category or "wording" selected, the intent of the zoning category needs to clearly indicate that development will not be located within this zoning category (**Figure 6**).

The zoning category should specifically indicate in the text which uses, if any, are permitted and under what requirements (e.g., minimum setbacks consistent with the flood/erosion allowances, maximum coverage, floodproofing, etc.). It is particularly important that the zoning category boundary be clearly defined on zoning schedules where such information is available. In this way, the public can easily see in which areas development is or is not permitted.

Site Specific Provisions in Zoning By-Law

This approach is used where municipalities and planning boards are interested in zoning a certain portion of the natural hazards area for possible development. The use of special sub-categories (**Figure 7**) or development envelopes (**Figure 8**) are common site specific provisions.

In doing so, specific regard needs to be had to local "site" characteristics and the by-law would require compliance with specified requirements for the development to be permitted. As a result, use of this approach requires detailed natural hazards mapping and more precise natural hazards data to ensure a greater certainty in the determination of the developable portions of the natural hazards area and the requirements to be applied to those developments.

Zoning Schedules

Certain situations may exist where natural hazards can only be identified in the zoning by-law or zoning order as an information item. In this approach the limits of the natural hazards would be graphically shown on the schedule.

FIGURE 6: Specific Zoning Category

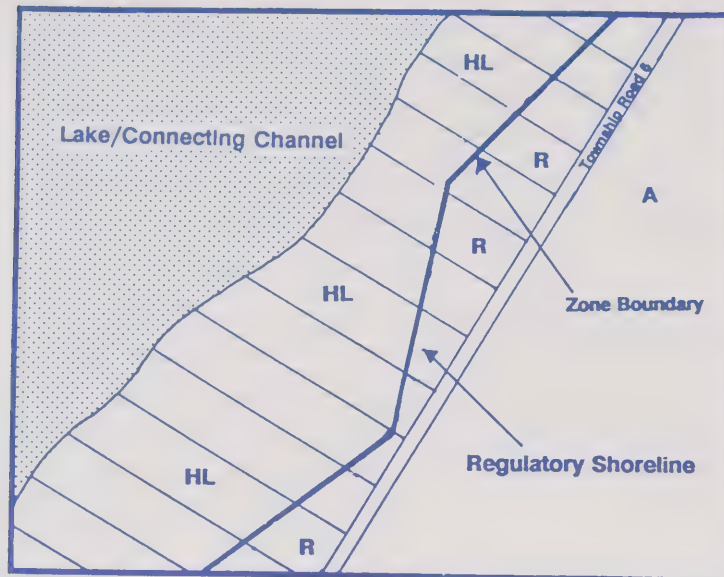
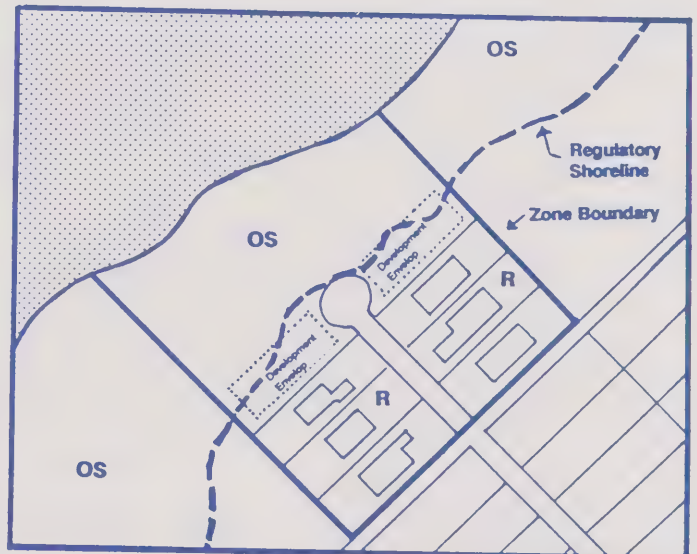
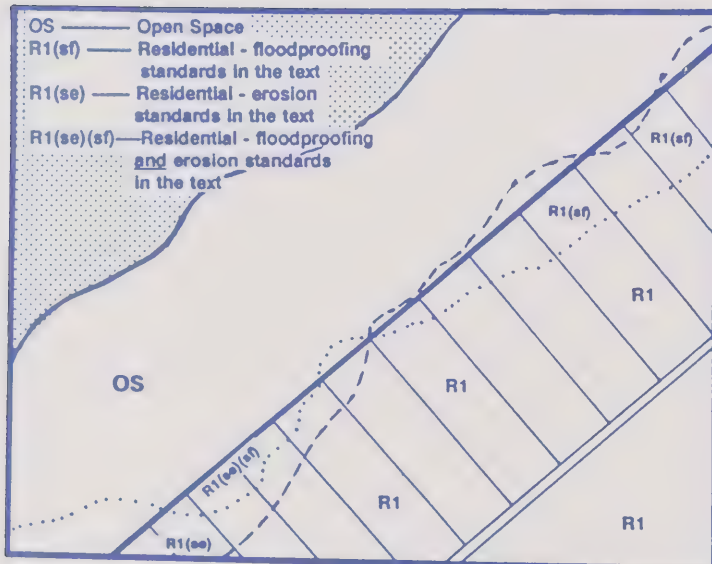


FIGURE 7: Site Specific Provisions
(special sub-categories)

FIGURE 8: Site Specific Provisions
(development envelopes)



This approach is not a constraint or conditional zoning but is to simply "red flag" the existence of the natural hazards area.

In this approach, development is presupposed as the land is zoned for its intended use. As a result, problems may arise where the zoning provides for development and yet, under an application to a conservation authority or the Ministry of Natural Resources under their legislation, the same development is turned down because a particular site is too hazardous.

Use of this approach is most appropriate outside of urban areas or where permanent or seasonal development pressure is low and where the existence of larger lots tend to provide greater flexibility in the actual siting of buildings. It may be possible to use this approach in urban areas where hazard information previously did not exist (e.g., zoning predates the natural hazards information). However, it is recommended that other more suitable approaches be investigated prior to the selection of this approach in urban areas.

General Provisions Section of a Comprehensive Zoning By-Law

Where natural hazards data is limited or non-existent, the issue of natural hazards can still be addressed through the general provisions section of the comprehensive zoning by-law. For example, the general provisions could include a minimum natural hazards allowance measured from a specified location (e.g., landward from the top of bank) to provide some margin of safety and to recognize natural hazards susceptibility. This provision could be applied generally, regardless of the actual zoning for individual areas.

This approach is more appropriate for areas where little or no development pressure exists than in those natural hazard areas (rural or urban) where permanent and/or seasonal development pressure has resulted in smaller lot sizes, providing less flexibility in the actual location of buildings, structures and ancillary facilities.

Other Zoning Mechanisms and Policy Approaches

The *Planning Act* also provides a number of land use and development control mechanisms to local municipalities and planning boards which may prove useful when addressing natural hazards. These include holding by-laws, bonus provisions, interim control by-laws and site plan control. Natural hazards may also be addressed in the conditions of approval of plans of subdivision and applications for consent.

2.3

Information Needs

Information needs depend on numerous factors and cannot be specified for all situations. For instance, information needs will vary with the municipal policy approach applied and the type of planning and level of decision making being undertaken. In general, site-specific decisions, addressing a smaller area of study, may involve more detailed information than decisions affecting a broader area.

Effective implementation of these policies requires that sufficient information regarding the applicable flooding, erosion, dynamic beaches, unstable slope, unstable soil and unstable bedrock concerns and associated environmental resources within the planning area is available. Evaluations of physical processes involve a knowledge of the interrelationships between various physical processes (e.g., water levels, storm surge, slope stability, hydraulics, etc.) and of the existence, magnitude, frequency and influence of these physical processes. Where evaluations of potential impacts on environmental resources (e.g., fish habitat, natural heritage, wetlands, water quality and quantity) are undertaken, known areas of value or potential value should be considered.

The identification of both existing and potential environmental resource values (e.g., fish habitat, natural heritage, wetlands, etc.) involves knowledge of where these values are located and how they may be affected. Evaluation of the need for their protection, creation, enhancement and/or restoration in specific circumstances involves knowledge of the significance of both local and ecosystem-based processes and of factors affecting their sustainability and productive capacity.

Information needs are the responsibility of the applicant or proponent.

Information needs commonly include the following:

- the landward extent and the severity, magnitude and nature of the natural hazards;
- the physical influences and impacts, their significance and spatial extent of various natural hazards mitigation measures (prevention, protection, emergency responses or a combination of all three);
- location and nature of biological resources (e.g., inventories of fish communities, wildlife, wetlands, and vulnerable, threatened or endangered species, etc.);
- location of known or potential biological habitats (e.g., river mouths, offshore shoals);
- nature of biological habitats (e.g., migratory routes for fish and wildlife);

- factors limiting productive capacity (e.g., impaired surface and ground water quantity/quality, barriers to migration or movement);
- sensitivity of habitats to development.

This list is not all inclusive. Additional supporting information and policy direction on these resources are also provided in the policies addressing fish habitat (policy A1.3), wetlands (policy A2), natural heritage (policy A1.2 and A1.4) and water quality and quantity (policy A1.1 and A1.4). Please also see their respective implementation guidelines.

Appendix

Glossary

For the purposes of clarification in reading and understanding the content and policy direction identified in the implementation guideline for natural hazards the following definitions not identified in the Comprehensive Set of Policy Statements are provided:

Access (Ingress/Egress):

refers to the standards and procedures currently applied in engineering practice associated with providing safe passage for vehicles and people to and from an area, by land and/or water, during an emergency situation as a result of the influence of natural hazards, failure of floodproofing and/or protection works, and/or erosion that have been reviewed and approved in consultation with the local conservation authority and/or the Ministry of Natural Resources.

Address:

refers to those standards and procedures intended to alleviate or reduce the impacts associated with natural hazards which are used and applied in current coastal, hydrology and hydraulic engineering, geotechnical and scientific practices and have been reviewed and approved in consultation with the local conservation authority and/or the Ministry of Natural Resources.

Environmentally Sound:

refers to those principles, methods and procedures involved in addressing the protection, management and enhancement of the shoreline and watershed ecosystems which are used in disciplines such as geology, geomorphology, botany and zoology and applied in the study of coastal and river processes, vegetation, wildlife and aquatic habitat resource management and have been reviewed and approved in consultation with the local conservation authority and/or the Ministry of Natural Resources.

Littoral Cell:

refers to a self-contained coastal sediment system that has no movement of sediment across its boundaries. The alongshore limits are defined by natural formations or artificial barriers where the net sediment movement changes direction or becomes zero.

Shoreline Ecosystem:

refers to that area extending landward to an internal river or watercourse divide (that is, where lands drain directly towards the Great Lakes - St. Lawrence River System, as opposed to an internal river/watercourse system) and lakeward to the outer limit of the littoral cell.

Shoreline Sediment Compartment:

refers to a coastal sediment system which encompasses two littoral cells supplying depositional material to a common sink zone.

Appendix

Roles and Responsibilities in Natural Hazards Management in Ontario

Evaluation and understanding of the roles and responsibilities of various agencies in the implementation of policies addressing natural hazards are crucial to avoiding duplication and to promoting consistency in policy implementation.

For the purposes of policies addressing natural hazards the following provides an overview and explanation of implementation roles and responsibilities intended by the Province of Ontario:

- All public agencies, in all aspects of their own individual planning initiatives, shall develop policies and programs that are consistent with the intent and purposes of the natural hazards policies as approved in accordance with section 3 of the *Planning Act*, 1995.

To assist public agencies in fulfilling this objective, the province has identified that the Ministry of Natural Resources and the Ministry of Municipal Affairs are responsible for the preparation of Implementation Guidelines and Technical Manuals, where required, to more fully explain the content and intent of policies addressing natural hazards.

- As lead ministry responsible for administration of the provincial natural hazards management program, the Ministry of Natural Resources develops, where required, technical support materials to assist in the implementation of these policies.

In addition to providing technical assistance used in defining the “areas of provincial interest”, the Ministry of Natural Resources, where information is available, will assist municipalities in determining those matters to be addressed to ensure that development activities are undertaken in an environmentally sound manner.

- The key implementing agencies available to assist in the interpretation and implementation of policies addressing natural hazards are the conservation authorities and the Ministry of Natural Resources, where conservation authorities do not exist.

Where conservation authorities do exist and where information is available, the conservation authorities will make available any historical natural hazards databases, mapping and studies to promote consistent and accurate definition and delineation of the “areas of provincial interest” (e.g., areas susceptible to flooding, erosion, dynamic beaches, unstable slopes, unstable soils, unstable bedrock). Conservation authorities, where information is available, will also assist municipalities by reviewing and providing comments on official plans, comprehensive zoning by-laws and minister’s zoning orders, by providing technical expertise at various hearing forums where interpretation of the purpose, intent, implementation and/or technical aspects of these policies are required, and by consulting, informing and educating the various agencies and the general public on the principles, practices and management options available for addressing natural hazards.

- In the interest of promoting consistent interpretation and implementation of policies addressing natural hazards, it is the expectation of the Province of Ontario that conservation authorities and the Ministry of Natural Resources, where appropriate, will promote, facilitate and/or coordinate shoreline and watershed planning processes in partnership with local municipalities, planning boards and other public and private interests. Where natural hazards mapping developed through the Canada/Ontario Flood Damage Reduction Program has been completed, this mapping will provide the base information and may play an integral role in the implementation of local shoreline and watershed planning processes.

To further assist in the implementation of these policies, beyond the mechanisms provided under section 3 of the *Planning Act*, it is the expectation of the Province of Ontario that other provincial legislative controls will be coordinated with those administered by the municipalities and planning boards toward the collective achievement of the purpose and intent of these policies. In specific, where deemed appropriate, that conservation authorities should pursue implementation of these policies through the provisions of the *Conservation Authorities Act* (e.g., Fill, Construction and Alteration to Waterways Regulations) and similarly, that the Ministry of Natural Resources should pursue implementation of these policies through the provisions of the *Lakes and Rivers Improvement Act* and the *Public Lands Act*.

To provide for continued preparation and updating of natural hazards mapping, it is the expectation of the province that the Ministry of Natural Resources, in conjunction with the federal Department of Environment, will continue to administer the Canada/Ontario Flood Damage Reduction Program where applicable. Of particular importance is the undertaking of natural hazards studies and mapping initiatives to assist in informing and educating the general public and public and private agencies regarding the definition, delineation, characteristics and consequences of natural hazards.

- Municipalities and planning boards are to develop municipal planning documents consistent with the purpose, intent and direction contained in the policies. This responsibility will also extend to the review and updating of any existing official plan, comprehensive zoning by-law, or minister's zoning order.
- To assess and ensure the long-term viability and technical, scientific, and planning soundness of these policies, it is the expectation of the Province of Ontario that the Ministry of Natural Resources and the Ministry of Municipal Affairs, where appropriate, will undertake periodic research programs to update the recommended policy direction and supporting implementation and technical materials.

Appendix

Provincial Natural Hazards Management Program

Within the Province of Ontario, management of shoreline and watershed ecosystems involves the simultaneous recognition and addressing of natural hazards and environmental resources. As articulated through the goals of the provincial natural hazards management program, the government's role in the planning and management of natural hazards is:

- **to provide order and equity in the use and/or non-use of natural hazards susceptible lands; and**
- **to protect society, including all levels of government, from being forced to bear unreasonable social and economic burdens of unwise individual decisions.**

In Ontario, the management of natural hazards is carried out through a combination of three program components: **prevention, protection and emergency response**. Each component is designed to address different aspects of natural hazards management while at the same time ensuring that the selected actions are undertaken in an environmentally sound manner.

Prevention is achieved through the orderly planning of land use and the regulation of development within undeveloped and developed areas. The primary intent of prevention measures is to minimize the potential risks to property and life by directing development to locations outside the hazard areas or to the less hazardous portions of the area. The intent is also to minimize adverse environmental impacts by requiring that development activities be undertaken in an environmentally sound manner.

Protection measures, involving the construction of environmentally sound non-structural and/or structural protection works, are intended to reduce the potential risk to life and property, to minimize adverse environmental impacts, and to provide a safe means of entering and exiting an area or site by vehicles and people. Where protection measures are considered, emphasis is to be placed on "soft-engineering" or bio-engineering alternatives. Protection measures are primarily applied to protect existing developments. They may also form an integral component of a properly planned development within undeveloped areas, provided the proposed protection measures and their potential impacts have been evaluated on a comprehensive shoreline or watercourse reach basis.

Finally, **emergency response** involves the prediction of emergency situations, the establishment and carrying out of evacuations where necessary, as well as direct actions to combat the hazardous situations. These responses are normally identified by municipalities, in cooperation with other government agencies, through the preparation of Emergency Action Plans. Although emergency response measures assist in reducing risks to life and some property losses, they do not eliminate these losses and do not prevent natural hazards damages and risks from recurring.

Within Ontario, directing development to areas outside of flood, erosion, dynamic beach, unstable slopes, unstable soils and unstable bedrock susceptible lands or to the less hazardous portions of these areas, is the preferred approach. In doing so, municipalities reduce the need for costly protection and emergency response measures. At the same time, this ensures that existing natural hazards are not aggravated or that new natural hazards or environmental impacts are not created on adjacent lands or developments. In many municipalities, this is achieved by the acquisition of highly sensitive and natural hazards vulnerable areas, or by returning these areas to a natural state. In doing so, this establishes a network of undeveloped areas suitable for inclusion in the municipality's greenspace or parks system, thereby enhancing the quality of life. To achieve the basic objectives of the provincial natural hazards management program of:

- **minimizing risks to life, property damage, social disruption and adverse environmental impacts; and**
- **ensuring a coordinated and environmentally sound approach to the wise use and management of lands susceptible to natural hazards in a manner integrated with land use planning,**

the following **principles** are applied:

- a) proper natural hazards management requires the simultaneous recognition and addressing of natural hazards and ecosystem integrity in a manner integrated with land use planning;
- b) effective natural hazards management can only occur on a comprehensive shoreline (littoral cell or shoreline sediment compartment) or watershed basis with due consideration given to physical processes, effects of adjacent development and associated environmental impacts;
- c) local conditions (geophysical, hydrological, environmental, economic and social characteristics) vary from one stretch of shoreline to another and one watershed to another, and accordingly, should be taken into account in the planning and managing of areas susceptible to natural hazards;
- d) the degree of risk (threat to life and property damage) can vary from shoreline to shoreline and watershed to watershed; the potential for development to safely occur may exist in some locations and may be too hazardous in other locations;
- e) development susceptible to natural hazards or which will cause or aggravate natural hazards threats to existing and/or approved uses and areas or which will cause adverse environmental impacts should not be permitted to occur unless the natural hazards and/or environmental impacts have been addressed;
- f) where development may be permitted, the development be directed to the least hazardous portions of the areas of natural hazards to minimize the potential risks to life and property damages and to reduce costs associated with addressing the hazards and emergency response;
- g) where development may be permitted within natural hazards susceptible areas such developments will be undertaken in an environmentally sound manner in recognition of other resource values; and
- h) natural hazards management and land use planning are distinct yet related activities that require overall coordination on the part of municipalities, conservation authorities, the Ministry of Natural Resources and the Ministry of Municipal Affairs.

Appendix

Sources of Technical Information

In evaluating the planning approaches to be applied in areas susceptible to natural hazards, evaluation of their potential impact on the shoreline and watershed ecosystems can be assisted by the review of the following policies and programs:

Province of Ontario Policies and Programs

- A Summary of Policies and Guidelines for the Protection of Aquatic Habitat in Ontario, DFO/MNR, 1994.
- Comprehensive Set of Policy Statements and supporting documents for:
 - *Wetlands*
 - *Fisheries*
 - *Natural Heritage*
- Ontario Wild Life Strategy
- Draft Statement on Biodiversity Conservation
- Strategic Plan for Ontario Fisheries (SPOF II)
- Association of Conservation Authorities of Ontario Class Environmental Assessments for Remedial Flood and Erosion Control Projects
- Rare, Threatened and Endangered Species Task Force
- Endangered Spaces Action Plan
- Provincial Ecological Land Classification System
- Direction 90's

Federal Policies and Programs

- Policy for the Management of Fish Habitat
- Canadian Wild Life Service
- The North American Waterfowl Management Plan

This listing is not all inclusive. The appropriate agencies should be consulted regarding the availability of pertinent information.

When evaluating the planning approaches to be applied to address each of the four natural hazards policies, the following listing of potential sources should be consulted:

a) Great Lakes - St. Lawrence River Shorelines

The primary sources of technical information associated with the implementation of policy A3.1 include:

- MNR Technical Guideline for the Great Lakes - St. Lawrence River Shorelines (1994); and the local conservation authority and Ministry of Natural Resources.

Other sources of technical information include:

- Wave Uprush and Wave Overtopping, Atria Engineering Hydraulics Inc, 1994
- Geotechnical Principles in Determining Slope Stability, Terraprobe, March 1994.
- Provincial Dynamic Beach Study, University of Guelph, 1994.
- Cross-Profile Sediment Transport Models, Atria Engineering Hydraulics Inc, 1994.
- Beach and Dune Management Manual, Geomatics International Inc, 1994.
- Wave Hindcasting Databases and Studies:
 - Lakes Ontario and Superior, MacLaren Plansearch, (3 Volumes), March 1988.
 - Lake Huron and Georgian Bay, Philpott Associates Coastal Engineers Ltd, (4 Volumes), March 1988.
 - Lakes Erie and St. Clair, Sandwell Swan Wooster, (3 Volumes) March 1988
 - Littoral Cell Definition and Sediment Budgets for Ontario's Great Lakes, Reinders, 1988.
 - Canada/Ontario Flood Damage Reduction Program (Shoreline Hazard Mapping), 1987-95
 - Canada/Ontario Flood and Erosion Prone Area Maps, 1978.
 - Canada/Ontario Great Lakes Shore Damage Survey, 1978.
 - Canada/Ontario Great Lakes Erosion Monitoring Program: 1973-1980, Boyd, 1980.

b) Ravines, River Valleys and Streams

Sources of technical information associated with the implementation of policy A3.2 include:

- Guidelines
 - Natural Channel Systems
 - Water Management on a Watershed Basis, Implementing an Ecosystem Approach
 - Subwatershed Planning
 - Integrating Water Management Objectives in the Municipal Planning Process
 - Urban Drainage Design Guidelines
 - Guidelines on Erosion and Sediment Control for Urban Construction Sites
 - Stormwater Quality Best Management Practices
 - Stormwater BMP Planning and Design Manual
- Geotechnical Principles in Determining Slope Stability, Terraprobe, March 1994
- Canada/Ontario Flood Damage Reduction Program

c) Hazardous Sites

Sources of technical information associated with the implementation of policy A3.3 include:

- County Soils Mapping, University of Guelph,
- Ontario Geologic Survey Mapping, Ministry of Northern Development and Mines
- Slope Stability Study of the South Nation River and Portions of the Ottawa River, Poschman, Klassen, Klugman and Goodings, 1983
- Calculation of Setback Lines for Slopes with a Factor of Safety of Less than 1.5, Turner and Bracken, 1982
- Setback Distances for Unstable Slopes in the United Counties of Prescott and Russell, Ontario Ministry of Natural Resources, Eastern Region, 1988
- Slope Stability Study of the Regional Municipality of Ottawa-Carleton Ontario Canada, Klugman and Chung, 1976
- Slope Stability Evaluation Phase I South Nation River Casselman to Lemieux, Ontario, Golder Associates, September 1988

d) Riverine Flood Plains

The primary source of technical information associated with the implementation of policy A3.5 is the Implementation and Technical Guidelines for the Provincial Policy for Flood Plain Planning adopted in 1988.

Appendix

Applicable Federal and Provincial Legislation

This table provides an overview of federal and provincial statutes and regulating agencies, in addition to those established under the *Planning Act*, that govern or have an influence on development occurring with areas of natural hazards.

Applicable Federal and Provincial Legislation

LEGISLATION	Natural Hazards			
	Gt.Lakes - St. Lawrence Shorelines	Ravine, River Valley, and Stream Erosion	Hazardous Sites (natural)	Riverine Flood Plains
Aggregate Resources Act (MNR)	✓	✓		✓
Beds of Navigable Waters Act (MNR)	✓	✓		✓
Canada Fisheries Act (DFO)	✓	✓		✓
Canada Water Act (DOE)	✓	✓		✓
Conservation Authorities Act (MNR)	✓	✓	✓	✓
Constitution Act (Federal Government)	✓	✓	✓	✓
Drainage Act (OMAFRA)	✓	✓	✓	
Environmental Assessment Act (MOEE)	✓	✓	✓	✓
Environmental Bill of Rights (MOEE)	✓	✓	✓	✓
Environmental Protection Act (MOEE)	✓	✓		✓
Lakes and Rivers Improvement Act (MNR)	✓	✓	✓	✓
Municipal Act (MMA)	✓	✓		✓
Navigable Waters Protection Act (DOT)	✓	✓		✓
Ontario Water Resources Act (MOEE)	✓	✓	✓	✓
Planning Act (MMA)	✓	✓	✓	✓
Public Lands Act (MNR)	✓	✓	✓	✓
Public Utilities Act (MMA)		✓		✓
Top Soil Preservation Act (OMAFRA)			✓	
Ontario Planning and Development Act (MMA)		✓	✓	✓
Ontario Building Code Act (MOH)	✓	✓	✓	✓

NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Past Mining Activities

Implementation Guideline for Policy A3.3

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Goal Rationale As It Relates to Past Mining</i>	<i>2</i>
1.2	<i>Legislative Mechanisms</i>	<i>3</i>
	<i>The Planning Act</i>	<i>3</i>
	<i>The Mining Act</i>	<i>4</i>
	<i>Relationship of the Planning Act to the Mining Act</i>	<i>4</i>
2	Policy Explanation and Implementation	6
2.1	<i>Policy Intent</i>	<i>7</i>
	<i>Existing Development</i>	<i>7</i>
	<i>Development In An Area Suspected to Be a Mine Hazard</i>	<i>7</i>
	<i>Development on Adjacent Lands</i>	<i>8</i>
	<i>Identification of Mine Hazards</i>	<i>8</i>
	<i>Study Requirements for Proposed Development</i>	<i>9</i>
	<i>Responsibility for Rehabilitation</i>	<i>9</i>
	<i>Rehabilitation Requirements</i>	<i>10</i>
2.2	<i>Possible Implementation Approaches</i>	<i>10</i>
Appendix		
A	<i>Glossary</i>	<i>13</i>
B	<i>Excerpts from Mining Act Rehabilitation Regulations</i>	<i>18</i>
C	<i>Ministry of Northern Development and Mines Offices</i>	<i>21</i>

1

INTRODUCTION

The purpose of this implementation guideline is to assist decision makers with the implementation of policy A3.3 of the Comprehensive Set of Policy Statements, as it relates to hazards associated with past mining activities. It is specific to non-aggregate mineral resources including metallic minerals, industrial minerals and mined salt, but excluding petroleum resources. The *Mining Act* gives the Ministry of Northern Development and Mines (MNDM) the mandate and responsibility to regulate past mining activities in Ontario including the rehabilitation of mine hazards.

Goal A3 is one of three goals for the policy statements on Natural Heritage, Environmental Protection and Hazards. Hazard policies are aimed at safeguarding the environment, public health and safety, and avoiding property damage. The goal is:

"To ensure that development is not permitted in areas where site conditions or location may pose a danger to public health or property damage; and to encourage a coordinated approach to the use of land and the management of water in areas subject to flooding in order to minimize social disruption."

Policy A3.3 deals with development in relation to two groups of hazardous sites as defined in the policy statements:

1. those properties or lands that contain naturally occurring hazards; and,
2. properties or lands that are hazardous as a result of human activity on the land.

Hazards associated with petroleum and salt solution mining are regulated by the Ministry of Natural Resources (MNR) and addressed in a separate implementation guideline.

The suggested approaches contained in this implementation guideline are not intended to be all inclusive. Planning authorities are encouraged to discuss other possible implementation options with the Ministry of Northern Development and Mines (MNDM).

1.1

Goal Rationale As It Relates to Past Mining

The planning process offers the opportunity to provide a proactive approach to avoid potential adverse public health and safety or environmental consequences from past mining hazards that have not yet been rehabilitated, before the principle of development is established to permit other uses on or adjacent to these sites.

In the absence of provincial policies and without the knowledge of risks associated with past mining activity, past development has proceeded with consequent property damage and risks to public health and safety or the environment.

A policy statement for hazardous sites ensures that development will not proceed where these risks cannot be overcome. New development proposals must address the actual or suspected mine hazard features and indicate what rehabilitation will be done by the developer to ensure that public health and safety and the environment will not be jeopardized by the intended new use of the land.

What development is affected by the policy statement and why is it important to keep development off abandoned mine sites?

In Ontario today, there are approximately 6500 abandoned mine sites on inventory with MNDM. The majority of these sites are located outside of municipalities, except for municipalities with a history of mining or known as "mining camps". Some examples are Cobalt, Kirkland Lake, Sudbury, Timmins, Red Lake, Beardmore, Geraldton, Paris-Brantford areas, Bancroft and Marmora.

Not all abandoned mine sites should be assumed to be hazardous. The abandoned mine site inventory contains sites that are not hazardous, as well as sites suspected to be hazardous and confirmed or known abandoned mine hazards. Moreover, for those known abandoned mine hazards, the degree of hazard and risk to public health and safety and the environment may vary greatly.

Many of the abandoned mine sites are clustered in areas of former mining or mineral exploration activity. Many known abandoned mine hazards have been identified by MNDM but the extent and the severity of each hazard can only be determined on the basis of site-specific investigations.

Such investigations have been conducted by the Ontario government on a case-by-case basis, such as in the Town of Cobalt and in the City of Timmins, in response to high risk circumstances that could have readily endangered public health or public safety or severely damaged the environment.

Within the inventory of abandoned mine sites suspected to be hazardous based on current

MNDM information, the confirmation of the hazard cannot be determined without additional information obtained from on-site investigation and analysis.

Until such time that all suspected abandoned mine hazards can be confirmed and all abandoned mine hazards can be properly rehabilitated, a very conservative and cautious approach must be taken towards establishing the principle of development in these areas.

The definition of "development," in the Comprehensive Set of Policy Statements applies to policy A3.3. The full definition is found in Appendix A - Glossary. The general development categories affected are buildings, structures, site grading and the placing or dumping of fill.

It is important to keep this kind of development off abandoned mine sites that have not been rehabilitated because of disturbance to the site and the additional physical loading placed on the site where it did not previously exist.

For example, the abandoned mine site may not have been considered hazardous in a current state with existing buildings or structures or as vacant land. However, the additional weight of new buildings or structures where none existed before, or the expansion to existing buildings or structures on the site may make it hazardous. The added loads can result in subsidence where underground excavations are close to the surface or where there is simply a "crown pillar" remaining.

The excavation of material, including the blasting of bedrock for foundations can also create unstable underground conditions or increase existing risks, thus causing subsidence where mine workings are close to the surface and have not been stabilized.

Development on a former mine tailings site may cause physical disturbance to otherwise benign stable materials possibly releasing contaminants to the environment or causing unstable construction conditions.

To further illustrate this situation, a proposal to demolish an existing two or three storey office building and change the use to a parking lot on a site that is underlain by former mining activity may appear on first examination as improving or overcoming the potentially hazardous situation.

However, it is necessary to consider the weight loading of all vehicles when the parking lot is full. The result may be that the very innocent looking parking lot may indeed be a far greater risk for subsidence and threat to public safety than the former building.

1.2

Legislative Mechanisms

The Planning Act

The *Planning Act* controls land use. Mechanisms exist in the planning process to prohibit or restrict the use of land. The planning process allows for the upfront identification of constraints

or risks to development, and the conditions necessary to address these matters, before the principle of development, if feasible, is established.

The *Planning Act* enables councils to pass zoning by-laws to prohibit the erection of buildings or structures on land that is, among other conditions, "unstable", "hazardous", and "subject to ... natural or artificial perils".

The *Mining Act*

The Ontario *Mining Act*, as amended in June, 1991, provides the enabling legislation to address the rehabilitation of mine sites, including surface and underground mine site components. This includes abandoned mine sites and the cleaning up of past problems. It also includes the prevention of future problems through the requirement for proponents to provide financial assurance and mine rehabilitation closure plans that must be approved by the Ministry of Northern Development and Mines (MNDM) prior to the commencement or re-commencement of any mine operation.

Relationship of the *Planning Act* to the *Mining Act*

The *Planning Act* deals with planning in Ontario, including, among other matters, subdivision control.

The *Mining Act* deals with the administration of "all public lands for mining purposes and for the purposes of the mineral industry and all regulations made with respect to mines or minerals or mining or mining land or mining rights or the mineral industry".

In common to both statutes is that they affect land or certain rights on, in or under land. The *Mining Act* does not administer or control decision making for land use on private land as is the case with the *Planning Act*. On the other hand, since the *Mining Act* deals with mining land tenure in Ontario, there is potential for confusion as to whether, when, where or how each Act may apply, especially with determining applicable approvals for the use of land and the erection of buildings or structures on land associated with mining.

An example of this is through use of the term "development" in land use planning and in mining. The Comprehensive Set of Policy Statements contain a number of definitions for "development" associated with decision making that affects provincial interests in land use planning. "Development₃", as it affects policy A3.3 for Past Mining Activities and policies under goal F2 for Mineral Resources, generally refers to applications under the *Planning Act* for the construction, erection or placing of a building, or structure of any kind; an addition or alteration; and, related activities such as site grading and the placing or dumping of fill. The full definition is contained in Appendix A. The application of the term "development₃" must also be read in the context of the policy wording contained in policy A3.3 and goal F2.

For mining purposes, "development" represents a stage in the "mining sequence" that starts

with a decision to go into mine production after a deposit has been discovered and evaluated. This may be underground mine production or mine production by surface mining methods. Numerous approvals, in addition to those under the *Mining Act*, are necessary in this process. Approvals under the *Planning Act* may be one of several, depending on the mining method and the site-specific circumstances.

"Mining lands" under the *Mining Act* include a hierarchy of tenure ranging from: staked mining claims, that provide a privilege to enter onto public land held by the Crown in order to prospect and explore for minerals; to mining leases of mining and/or surface rights that are renewable by the Crown for a specific period of time, usually 21 years to be used for no other purpose except mining; to mining patents, the most secure form of tenure that is granted in fee simple, and otherwise considered as private land.

Since the *Planning Act* applies to private land in Ontario, mining patents that contain surface rights are therefore subject to subdivision control under the Act. For example, the holder of a mining patent would require a planning approval to subdivide or sever the surface rights into smaller parcels.

The *Planning Act* specifically excludes from subdivision control, leases granted or disposed of by the Crown for 21 years or more. The horizontal severance of mining rights from surface rights is also excluded where mining patents or other forms of private land tenure are involved. Furthermore, under recent amendments, the vertical severance of mining rights is also excluded from subdivision control where no surface rights are involved.

On the other hand, the *Planning Act* deems a "pit or quarry" to be a use of land for purposes of the Act. A "pit or quarry" is a "surface" mining activity for mining purposes. Underground mining, another mining method, is not a use of land for purposes of the *Planning Act*. Although, where underground mining requires the construction of buildings or structures on surface land that is private land, planning approvals may be required, particularly if the land is not designated to permit the proposed use.

The *Ontario Building Code Act* offers some further guidance. This statute governs the issuance of building permits. The definition of "building" in the Act states that "building ... does not include a structure used directly in the extraction of ore from a mine." An example of this might be a mine headframe. On the other hand, it would logically follow that, for example, administrative offices or mineral ore processing facilities may not be included in such an exemption.

In conclusion, where it is determined that an approval under the *Planning Act* is required, the Comprehensive Set of Policy Statements apply. Planning decisions must be consistent with the policy statements. All policies should be read in their entirety and all applicable policies applied to each situation. This will include policy A3.3. where there may be hazards associated with areas of past mining activity or policies under goal F2 where the protection of mineral resource interests may be affected.

2

POLICY

Explanation and Implementation

Policy A3.3 states that:

"*Development₃* will be permitted on a *hazardous site* only if the site is/has been *rehabilitated* to remove or mitigate the hazard so that there is no remaining danger to public health or public safety or property damage."

"*Development₃* on or *adjacent* to lands affected by past mining activities will be permitted only if appropriate remediation or rehabilitation measures are undertaken to address and mitigate known or suspected *abandoned mine hazards* that may impact the proposed *development₃*."

"Where lands affected by past mining activities have been *rehabilitated*, *development₃* or re-use of these lands will be permitted only if the proposed *development₃* will not alter, destroy, remove or impair any rehabilitation work; and if no danger to public health or public safety or property damage would result."

Definitions from the Comprehensive Set of Policy Statements and some from the *Mining Act* have been included in the glossary. Please see Appendix A.

However, there is a need to explain the differences and intent of some additional terms being used in this guideline. For example, it cannot be assumed that all areas of past mining activity are abandoned mine sites, nor can it be assumed that all abandoned mine sites are hazardous. On the other hand, there can be areas of past mining activity that are not abandoned, yet they may be hazardous.

An **area of past mining activity** is any area where work has been conducted including advanced exploration, mining or mine production as well as directly associated metallurgical operations, as described in Part VII of the *Mining Act* and in the definitions from the *Mining Act* as noted in Appendix A.

The term **adjacent land**, is broadly defined in the policy statements. In the case of past mining, **adjacent land** refers to any land abutting a known or suspected mine hazard as specified in Part VII of the *Mining Act*. This includes contiguous land that would otherwise be abutting, except for the separation by a road, highway or utility corridor. There is a potential risk that the transportation or utility corridor could be undermined by the mine hazard and that the hazard may extend beyond that corridor.

2.1

Policy Intent

Existing Development

Most areas of past mining activity do not and will not affect any existing development due to their remote locations away from built-up areas. However, in some cases where development has been allowed to encroach on areas of past mining activity the development may be affected by concerns related to: public safety (e.g., open holes, quarry or pit slopes, waste piles, or the deterioration, weakening or failure of underground workings, dams, old foundations); public health (e.g., toxic waste, airborne particles, radiation or other emissions); or, the environment (e.g., soil, air or water contamination, and impacts on flora or fauna).

Development In An Area Suspected to Be a Mine Hazard

Each development proposal must be considered on a case-by-case basis in relation to the known or suspected mine hazard.

In the majority of cases, it will likely be possible to properly rehabilitate a hazardous site and allow a development to proceed as proposed.

On the other hand, there may be some situations where it is possible to rehabilitate a hazardous site, subject to modifications or adjustments to the original development proposal. An example of this might be through the use of larger setbacks from property boundaries, identification of more numerous or larger open space uses, or rerouting of ingress and egress routes.

In addition, there may be situations where development must be restricted if the proposal is not fully compatible with the rehabilitation that has already been conducted on the former mine

site.

For example, if a housing development was proposed for an area containing various capped and rehabilitated mine shafts it may be necessary to restrict development on certain individual lots within the proposal.

In a few exceptional situations, it may be necessary to completely prohibit a development proposal because of the extreme nature or severity of a mine hazard and sensitivities associated with the proposed development. This would occur, for example, where there is no available rehabilitation measure to allow the development to proceed without a risk to public health, public safety or the environment.

Development on Adjacent Lands

A properly rehabilitated mine site should have no effect on development adjacent to the mine site. However, on sites where rehabilitation has not been completed and adjacent lands overlie a mine hazard, the effects on adjacent development can include such impacts as: damage to surface water or groundwater, air quality (e.g., wind dusting), chemical contamination, radiation exposure or potential subsidence from adjacent mine workings.

If any of these effects are present, development on adjacent land may have to be restricted or possibly even prohibited, depending on the nature and extent of the hazard and whether suitable mitigation measures can be put in place to overcome the hazard.

Some past mining sites contain no hazards that would impact adjacent development. For example, an open pit that has filled with water with no slope stability risks and does not present any greater risk than the local topography may not be considered to be a hazard. Another example may be a former underground mine with surface buildings and structures removed and the land returned to agricultural use.

Identification of Mine Hazards

Through preconsultation opportunities and the early involvement of MNMD in the planning process, particularly with preparation of new or updating of official plans, publicly available information on the identification of known or suspected abandoned mine hazards will be provided to the municipality or planning board as part of MNMD's input on provincial interests.

The determination that a site is hazardous is made by studying existing reports and maps, and conducting site inspections or geotechnical testing. In some cases MNMD may have file information available, at the Resident Geologist's offices.

In other cases, the owner of the mine site may be required to do an independent engineering study to determine the site specific conditions, but in all instances this is confirmed by MNMD's technical staff.

Many hazards are identified by MNMD or other government agencies but others are found

and reported by the mineral exploration or forestry industry, or members of the general public.

Under some circumstances, although anticipated to be rare, a previously unknown abandoned mine hazard may be encountered while developing a property for another use. In such a case, as a matter of public health and safety, the developer should halt any further activity on the property and contact MNMD for the next course of action.

Study Requirements for Proposed Development

Each mine hazard is unique due to its very site specific characteristics and the former mining methods. For example, physical, structural site conditions, or the presence of chemicals or a combination of these will affect the nature of the hazard. Consequently, there is no single standard set of study requirements that can be applied uniformly to all mine hazards, regardless of site conditions.

A typical study might cover any of the following topics but may not be limited to these:

1. slope stability with regard to open pits, and, ore, concentrate, waste, rock and overburden piles;
2. physical stability of tailings impoundment structures (e.g., dams);
3. contamination in either surface or ground waters due to acid mine drainage, heavy metals, cyanide or other toxic materials;
4. location and stability of underground workings;
5. the nature and location of all mine openings to surface; and,
6. the location and potential impact of remaining structures, equipment and facilities.

Responsibility for Rehabilitation

The owner or occupier of the property (mining and/or surface rights) is responsible or liable for rehabilitating or remediating an abandoned mine hazard. However, in some cases a developer may be able to negotiate a rehabilitation or remediation agreement with the surface and/or mining rights owner. Specific responsibility for various hazards is often dependent on specific ownership details of the hazard.

In all cases, MNMD's technical staff must review and agree with the proposed rehabilitation plan.

Rehabilitation Requirements

Rehabilitation measures will be different for each site, however, the minimum standards to be followed are provided in regulations passed under the *Mining Act*.

Other legislative requirements that may be applicable are determined through a formal interagency review agreement coordinated by MNDM. For information on specific measures refer to the regulatory requirements of the *Mining Act* and MNDM's "Rehabilitation of Mines Guidelines for Proponents". Relevant excerpts from the regulations have been included in Appendix B for information only.

Each rehabilitation proposal is approved based not only on accepted engineering practices but also on the planned or expected future use of each site and its adjacent lands.

Development may take place on a rehabilitated mine site but approval under the *Mining Act* must first be obtained from MNDM. Any development that is proposed must be consistent with the individual site conditions or the land uses as indicated in the site's previously approved closure plan. If not, the developer may be required to enhance the existing rehabilitation works to fit the new use.

While rehabilitation must be completed under the legislation, and regulations, it should be noted that the rehabilitation objectives or standards will not always be exactly the same for different sites and different future uses.

Mine sites that impose a greater threat to public health or safety or to the environment will require more attention than sites imposing a lesser threat. Also, the location of the site will have a great bearing on the rehabilitation objectives and standards. For example, the closure plan for a mine site located within a municipality may allow for some or all of the buildings and roads to be left intact for selected future development or preservation of heritage features, rather than returning the entire site to its former natural state. Furthermore, a proposal for development on a rehabilitated mine site may indeed add to or improve the existing rehabilitation work.

Reference should also be made to the implementation guideline for policy F2.4 that deals with rehabilitation requirements for mining lands.

2.2

Possible Implementation Approaches

Decision making should not compromise public health, public safety or environmental considerations.

The rehabilitation of an abandoned mine hazard is subject to the approval of the Ministry of Northern Development and Mines. The requirement to rehabilitate mine sites and the enabling legislation to enforce this is contained in the *Mining Act*.

Very early in the planning process, planning authorities should consult with the Ministry of Northern Development and Mines for official plan input on the ministry's provincial interest in abandoned mine hazards and mine site rehabilitation. Through this input MNDM will be providing relevant information and recommendations associated with the treatment of any known or suspected abandoned mine hazards that MNDM has identified in the planning area, as well as information on any rehabilitated mine sites that have been closed out under present standards of the *Mining Act*.

It should be noted that the area Resident Geologist's office is the MNDM contact for providing plan input and plan review information and comments relevant to the Ministry's provincial interest in planning. The Resident Geologist will also coordinate the involvement of other MNDM specialists in the planning process where applicable; for example, the mine site rehabilitation inspector; the provincial supervisor for abandoned mines; or, staff from the Land Use Policy and Planning Section.

In consultation with MNDM during the planning process, planning authorities are encouraged to develop and adopt official plans that:

1. identify known or suspected abandoned mine hazards on the land use schedule or other official plan map where:
 - a) development will not be permitted because of the potential hazards associated with a mine site, where it is known the hazard cannot be safely mitigated to allow any form of development; and,
 - b) development will be restricted, subject to determining site specific requirements to overcome the associated mine hazard.
2. contain policies to address the conditions that must be satisfied before development may proceed in the areas where development will be restricted and to require consultation with MNDM, the approval authority for mine site rehabilitation.

Some of the principal features associated with abandoned mine hazards are:

- openings to surface,
- areas of potential collapse or subsidence,
- mine wastes,
- mine effluent,
- surface structures and machinery.

Within each of these categories, there is a range and variety of associated hazards.

These features must be more thoroughly addressed through individual site investigation and analysis. Properly engineered protective measures to address the situation will depend on the specific site conditions. Rehabilitation measures are also subject to the approval of MNDM under the *Mining Act*.

3. contain policies to address development on lands adjacent or abutting known abandoned mining hazards that have been identified by MNDM and the conditions that must be satisfied before development may proceed in those areas.
4. will require applicants for site specific development proposals in areas of known or suspected abandoned mine hazards to confirm the presence of hazards that may impact the development and will require mitigation measures to be approved by the Ministry of Northern Development and Mines.
5. contain the location of rehabilitated mine sites identified by MNDM where no development can take place on the rehabilitated lands without the consent of the Minister of Northern Development and Mines as required under the *Mining Act*.

Implementing zoning by-laws should not allow development until the conditions and requirements of the official plan are fully satisfied.

In order to further protect existing or planned rehabilitation works, and in the interests of public health and public safety, municipalities may wish to consider passing appropriate by-laws to restrict other activities not controlled by the *Planning Act*, for example, by-laws to restrict the use of vehicles, motorcycles and all-terrain vehicles that could damage rehabilitated mine tailings areas.

Reference should also be made to the implementation guidelines for policy B 17 on land use compatibility and to the guideline for policy F2.4 which addresses the rehabilitation of mining lands

Appendix

Glossary

Relevant Definitions from the Comprehensive Set of Policy Statements

Abandoned mine hazards:

means surface or underground mine workings, surface buildings or structures, tailings, waste-rock piles, areas of subsidence or any other component of a mine site that has not been rehabilitated.

Adjacent lands:

means lands contiguous to an identified natural feature, function or resource.

Adverse effects:

means one or more of:

- impairment of the quality of the natural environment for any use that can be made of it;
- injury or damage to property or plant and animal life;
- harm or material discomfort to any person;
- an adverse effect on the health of any person;
- impairment of the safety of any person;
- rendering any property or plant or animal life unfit for use by humans;
- loss of enjoyment of normal use of property; and
- interference with normal conduct of business.

Built-up areas:

means areas within hamlets, villages, towns or cities where development is concentrated. It includes existing development, as well as vacant registered and draft approved lots.

Contaminated site:

means property or lands that, which have not been rehabilitated and which, for reasons of public health and safety or environmental quality, are unsafe for use as a result of human activities, particularly those activities that have left a chemical or radioactive residue. Such sites include some industrial lands, some transportation facilities, electrical facilities, and some abandoned mine hazards.

Development₃:

means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill.

Hazardous site:

means property or lands that have not been rehabilitated which for reasons of public health, safety, or potential property damage, could be unsafe for development as a result of naturally occurring or human-made hazards. They may include unstable lands, or areas subject to changes as a result of their previous use as sites for petroleum operations, sites prone to erosion, slopes and banks, unstable soils such as some organic and clay soils (leda and portlandia clays), areas of unstable bedrock (karst topography), sites containing orphan wells, suspended wells, former salt solution mining sites, and abandoned mine hazards.

Infrastructure:

means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Rehabilitate:

means, after extraction, to treat land so that the use or condition of the land is restored to its former use or condition, or is changed to another use or condition in accordance with applicable legislation.

Settlement areas:

means built-up areas and that surrounding land which has been designated for development over the long term planning horizon. In some cases, the settlement area may be no larger than the built-up area.

Relevant Definitions from the Mining Act

Abandoned:

means the proponent has ceased or suspended indefinitely advanced exploration, mining, or mine production on the site without rehabilitating the site;

Advanced Exploration:

means the excavation of exploratory shaft, adit, or decline, the extraction of material in excess of the prescribed quantity, the installation of a mill for test purposes or any other prescribed work;

Closed Out:

means that all the requirements of an accepted closure plan have been complied with and is the final stage of closure;

Closure:

means the temporary suspension, inactivity or close out of advanced exploration, mining or mine production;

Closure Plan:

means a plan prepared in the prescribed manner to rehabilitate a project at any stage of closure and includes the information, particulars, maps and plans prescribed, as well as provision in the prescribed manner of financial assurance to the Crown for the performance of the requirements of the closure plan;

Inactivity:

means that advanced exploration, mine production and mining operations on the site have been suspended indefinitely in accordance with a closure plan, and although protective measures are in place on the site, the site is no longer being monitored by the proponent on a continuous basis;

Mine, when used as a noun:

means any opening or excavation in, or working of the ground, for the purpose of winning any mineral or mineral bearing substance, and all ways, works, machinery, plant, buildings and premises below or above the ground belonging to or used in connection with such

activity, and any roasting or smelting furnace, concentrator, mill, work or place used for or in connection with washing, crushing, grinding, sifting, reducing, leaching, roasting, smelting, refining, treating or research on any such substances and includes mines that have been temporarily suspended, rendered inactive, closed out or abandoned as well as lands where tailings or wasterock, or both, or any other prescribed substances from any opening or excavation or working of the ground have been deposited;

Mine, when used as a verb:

means the performance of any work in or about a mine, as defined in its noun sense;

Mine Production:

means mining that is producing any mineral or mineral bearing substance either for immediate sale or for stockpiling for ultimate sale;

Mining Rights:

means the right to minerals on, in or under any land;

Owner:

includes every person, being the immediate proprietor, lessee or occupier of a mine, or a part thereof, or of any land located, patented or leased as mining land, and includes an agent, or a person designated by the owner or agent as responsible for the control, management and direction of a mine, or a part thereof, but does not include a person receiving merely a royalty from a mine, or mining lands, or the owner of the surface rights only;

Prescribed:

means prescribed by the regulations;

Progressive Rehabilitation:

means rehabilitation done continually and sequentially, within a reasonable time, during the entire period that the project continues;

Project:

means a mine or the activity of advanced exploration, mining or mine production;

Proponent:

means the holder of an unpatented mining claim or licence of occupation or an owner as defined in section 1;

Protective Measures:

means steps taken in accordance with the prescribed standards to prevent personal injury or property damage that is reasonably foreseeable as a result of closure commencing;

Rehabilitate:

means measures taken in accordance with the prescribed standards to treat the land or lands on which advanced exploration, mining or mine production has occurred so that the use or condition of the land or lands,
a) is restored to its former use or condition, or
b) is made suitable for a use that the Director sees fit, and includes taking protective measures;

Site:

means the land or lands on which a project is located;

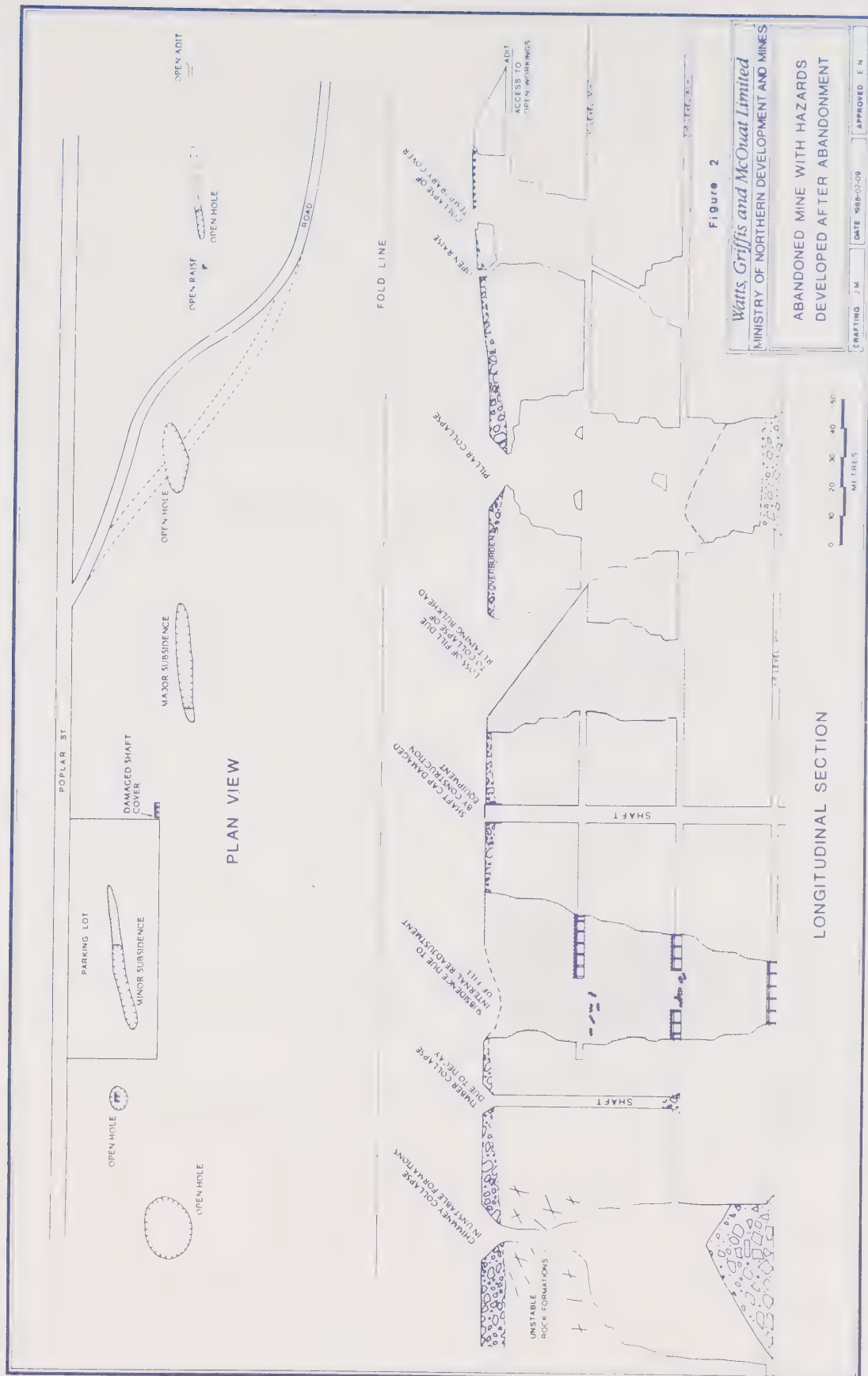
Surface rights:

means every right in land other than the mining rights;

Temporary Suspension:

means advanced exploration, mining or mine production have been suspended, in accordance with an accepted closure plan, on either a planned or unplanned basis, but the site is being monitored on a continuous basis by the proponent and protective measures are in place.





Appendix

Excerpts from Mining Rehabilitation Regulations

The following are Sections 21 to 24 of Ontario Regulation 114/91 made under the *Mining Act*.

SECTION 21 Rehabilitation Standards - Temporary Suspension

21.-(1) Before a project is placed in a state of temporary suspension, the proponent shall take all reasonable measures to prevent personal injury or property damage that is reasonably foreseeable as a result of the project being in a state of temporary suspension.

- 21.-(2) The following are the minimum rehabilitative measures that shall be taken by the proponent:
1. All mine openings that are potentially dangerous shall be protected against inadvertent access.
 2. All reasonable measures shall be taken to restrict access to the site and all buildings and other structures to authorised persons only.
 3. All mechanical and hydraulic systems shall be left in a no-load condition.
 4. All waste management systems shall be maintained as required by the closure plan.
 5. All monitoring programs shall be continued as required by the closure plan.
 6. All contaminated effluents shall be controlled as required by the closure plan.
 7. All petroleum products, chemical and waste, other than tailings and rock shall be made secure.
 8. All tailings and water impoundment structures and all rock piles, overburden piles and stockpiles shall be left in a stable and safe condition.

SECTION 22 Rehabilitation Standards - State of Inactivity

22.-(1) Before a project is placed in a state of inactivity, the proponent shall take all reasonable measures to prevent personal injury or property damage that is reasonably foreseeable as a result of the project being in a state of inactivity.

- 22.-(2) The following are the minimum rehabilitative measures that shall be taken by the proponent:
1. All shafts, raises and stopes open to surface shall be stopped with a reinforced concrete cap anchored to bedrock and capable of supporting a uniformly distributed load of 12 kilopascals and a concentrated load of 54 kilonewtons and shall be supplied with a vent capable of preventing accumulations of gas beneath the cap.
 2. All portals of adits and declines shall be sealed in a manner to prevent unauthorized or inadvertent access.
 3. All mine openings to surface that create a hazard greater than the hazards associated with the natural topographic features of the area shall be stabilized and secured against inadvertent access.

4. All surface areas disturbed or likely to be disturbed by mining shall be stabilized or protected against inadvertent access if such disturbance is likely to endanger the public or property.
5. All reasonable measures shall be taken to restrict access to the site and all buildings and other structures to authorized persons only.
6. All mechanical and hydraulic systems shall be left in a no-load condition.
7. All tailings impoundment areas, landfill sites and other waste management sites and systems shall be monitored, maintained or decommissioned as required by the closure plan.
8. All petroleum products, chemicals and waste shall be removed, disposed of, isolated or managed on site.
9. All tailings and water impoundment structures and all rock piles, overburden piles and stockpiles shall be left in a stable and safe condition.

22.-(3) The proponent shall inspect the site at least once every six months to ensure that all required rehabilitative measures are in place.

22.-(4) The proponent shall take all necessary steps to maintain the required rehabilitative measures.

SECTION 23 REHABILITATION STANDARDS - CLOSED OUT SITE

23.-(1) Before a project is closed out, the proponent shall take all reasonable measures to prevent personal injury or property damage that is reasonably foreseeable as a result of the project being closed out.

23.-(2) The following are the minimum rehabilitative measures that shall be taken by the proponent:

1. All shafts, raises and stopes open to surface shall be stopped with a reinforced concrete cap anchored to bedrock and capable of supporting a uniformly distributed load of 12 kilopascals and a concentrated load of 54 kilonewtons, and shall be supplied with a vent capable of preventing an accumulation of gas beneath the cap.
2. All portals of adits and declines shall be sealed off in a manner to prevent unauthorized or inadvertent access.
3. All mine openings to surface that create a hazard greater than the hazards associated with the natural topographic features of the area shall be stabilized and secured against inadvertent access.
4. All surface areas disturbed or likely to be disturbed by mining shall be stabilized or protected against inadvertent access if such disturbance is likely to endanger the public or property.
5. All buildings, power transmission lines, pipelines, railways, airstrips and other structures shall be dismantled and removed from the site or otherwise disposed of.
6. All machinery, equipment and storage tanks shall be removed from the site or otherwise disposed of.
7. All transportation corridors shall be closed off and revegetated.
8. All concrete structures, foundations and slabs shall be removed or covered by overburden and revegetated.
9. All petroleum products, chemicals and waste shall be removed, disposed of, isolated or managed on site.
10. All landfill sites and other waste management sites shall be rehabilitated.

11. If petroleum products, chemicals or waste have been stored or transferred during the life of the operation, the soils in the immediate vicinity of the storage sites shall be tested and any contaminated soils shall be controlled or disposed of.
12. All tailings impoundment areas, rock piles, overburden piles and stockpiles shall be rehabilitated or treated to ensure stability, erosion control and effluent quality.
13. All tailings, water and other control structures shall be either breached or made stable against any static and dynamic loading to which they may be subjected.
14. All watercourses on the site shall be either restored to their original courses or directed to new courses that will sustain themselves in the future without maintenance and that are consistent with the intended future use of the land.
15. All disturbed sites shall, to the extent practicable, be revegetated.

SECTION 24 WHERE REHABILITATION MEASURES ARE NOT REQUIRED

24. A proponent is not required to carry out a specific rehabilitative measure referred to in subsection 21(2), 22(2) or 23(2) in circumstances where,
 - (a) it is impracticable to carry out the measure;
 - (b) the measure would adversely affect the environment; or
 - (c) the measure is inconsistent with a land use control set out in a municipal bylaw made under Part V of the *Planning Act* or an order of the Minister of Municipal Affairs made under Part V of the *Planning Act*.

Appendix

Ministry of Northern Development and Mines Offices

The following are the area offices of the Resident Geologists who provide plan input and review comments for MNDM's planning interests.

BEARDMORE/GERALDTON DISTRICT

Resident Geologist
Suite B002, 435 James Street South
Thunder Bay, Ontario P7E 6E3
Tel: (807) 475-1331 Fax: (807) 475-1112

COBALT DISTRICT

Resident Geologist
Box 230, Presley Street
Cobalt, Ontario P0J 1C0
Tel: (705) 679-8558 Fax: (705) 679-5584

KENORA DISTRICT

Resident Geologist
Box 5200, 808 Robertson Street
Kenora, Ontario P9N 3X9
Tel: (807) 468-2813 Fax: (807) 468-2823

KIRKLAND LAKE DISTRICT

Resident Geologist
4 Government Road East
Kirkland Lake, Ontario P2N 1A2
Tel: (705) 567-5242 Fax: (705) 567-5621

PORCUPINE DISTRICT

Resident Geologist
60 Wilson Avenue
Timmins, Ontario P4N 2S7
Tel: (705) 360-8350 Fax: (705) 360-2001

RED LAKE DISTRICT

Resident Geologist
Ontario Government Building
Box 324, 227 Howey Street
Red Lake, Ontario P0V 2M0
Tel: (807) 727-3272 Fax: (807) 727-3553

SAULT STE. MARIE DISTRICT

Resident Geologist
60 Church Street
Sault Ste. Marie, Ontario P6A 3H3
Tel: (705) 945-6931 Fax: (705) 945-6934

SCHREIBER/HEMLO DISTRICT

Resident Geologist
Suite B002, 435 James Street South
Thunder Bay, Ontario P7E 6E3
Tel: (807) 475-1331 Fax: (807) 475-1112

SIOUX LOOKOUT DISTRICT

Resident Geologist
P.O. Box 3000, Queen and Fourth
Sioux Lookout, Ontario P8T 1C6
Tel: (807) 737-2037 Fax: (807) 737-1727

SUDBURY DISTRICT

Resident Geologist
Floor B3, 933 Ramsey Lake Road
Sudbury, Ontario P3E 6B5
Tel: (705) 670-5721 Fax: (705) 670-5681

SOUTHEASTERN ONTARIO DISTRICT

Resident Geologist
B.S. 43, Old Troy Road
Tweed, Ontario K0K 3J0
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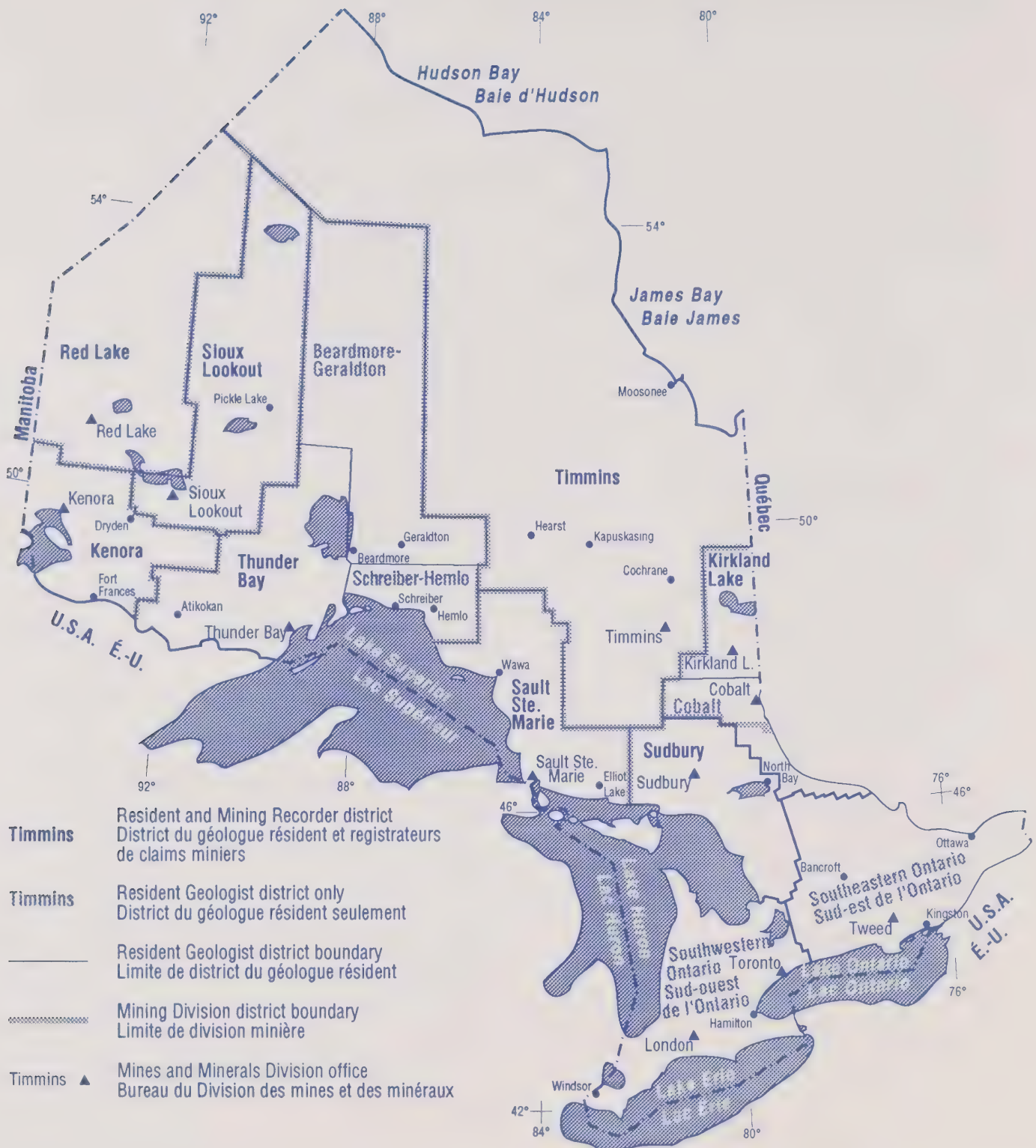
SOUTHWESTERN ONTARIO DISTRICT

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THUNDER BAY DISTRICT

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Mines and Minerals Division Offices



NATURAL HERITAGE, ENVIRONMENTAL PROTECTION & HAZARD POLICIES

Petroleum and Salt Solution Mining Hazards

Implementation Guideline for **Policy A3.3**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local District or Area office of the Ministry of Natural Resources.

**TABLE OF
CONTENTS**

1 Introduction 1

 1.1 *Hazards Associated with Past Petroleum Resource Operations* 1

2 Policy Explanation and Implementation 6

 2.1 *Policy Explanation* 6

Definitions 6

 2.2 *Implementation* 8

3 Sources of Information 10

Appendix

 A *Glossary* 11

List of Figures

 Figure 1 *Sites of Former Salt Solution Mining (Brining) Operations of Southern Ontario* 3

 Figure 2 *Sedimentary Basins and Petroleum Production Areas of Ontario* 5

1

INTRODUCTION

This implementation guideline explains the human-made hazard component of goal A, policy A3.3, which deals with hazards derived from old petroleum resource and salt solution mining (brining) extraction activities. These hazards are sometimes revealed after development is approved and therefore require mitigation before development continues.

Please refer to policies under goal F2 relating to Mineral and Petroleum Resources, and their supporting implementation guideline, for information regarding current petroleum resource or salt solution mining operations, and areas of deposits or potential resources. Under the *Petroleum Resources Act* and the *Mining Act*, the Ministry of Natural Resources has a responsibility to ensure hazards are not created by current petroleum resource and salt solution mining operations.

Goal A3 of the policy statements addresses issues of public safety and public health:

"To ensure that development is not permitted in areas where site conditions or location may pose a danger to public safety or public health or result in property damage; and to encourage a coordinated approach to the use of land and the management of water in areas subject to flooding in order to minimize social disruption."

1.1

Hazards Associated with Past Petroleum Resource Operations

Petroleum production began in Ontario in 1858. From that time until the turn of the century, there was no legislation regulating the petroleum industry. Today there are two pieces of legislation that require remedial actions with respect to present day petroleum and salt solution mining activities. These are the *Petroleum Resources Act* and the *Mining Act* respectively.

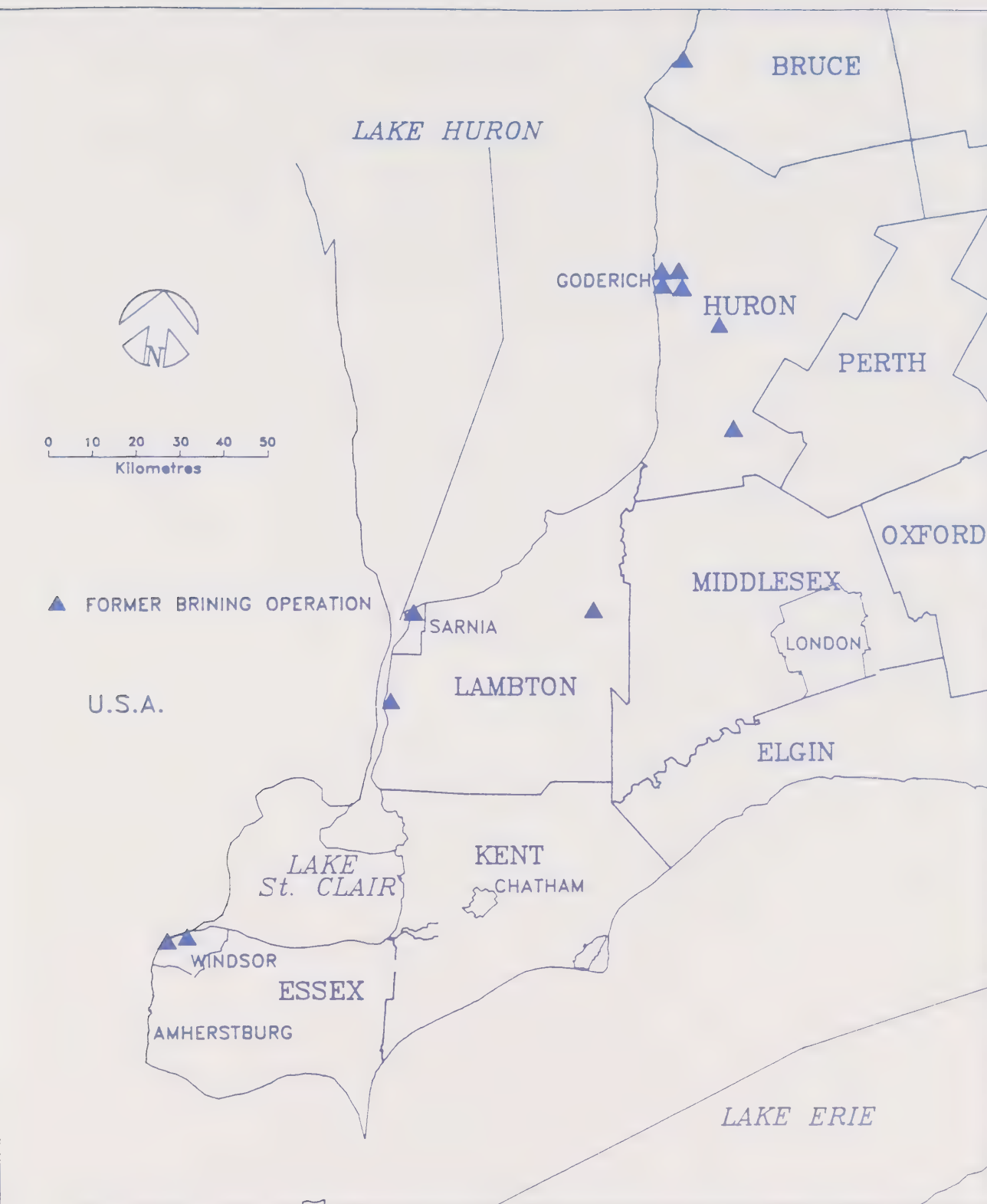
Hazards associated with old petroleum resource and salt solution mining extraction activities may include:

- (a) underground caverns derived from brine wells associated with salt solution mining operations;
- (b) suspended wells;
- (c) improperly plugged wells;
- (d) orphan wells; and
- (e) any tanks and other associated facilities found at the well site.

It is important that any hazards associated with these former activities be identified and mitigative measures be implemented to protect public health and safety. A description of each type of hazard and mitigative steps follows:

- (a) **Caverns:** Salt solution mining (brining) involves the drilling of a well to inject water into an underground salt deposit. The injected water dissolves the salt from the deposit creating brine and forming a cavern. The brine is circulated to the surface where it is processed to separate the water, salt and associated chemicals. Where there is evidence of significant trends of surface subsidence (sinking) or continued cavern roof sloughing (erosion) some caverns are a potential hazard. At some historic sites of salt solution mining (**Figure 1**), little may be known about the stability of the caverns, but if there is evidence of significant amounts of production suggesting substantive cavern size, then further information may be required to determine land surface stability. This information may be in the form of a study carried out by a qualified engineer or engineering company to evaluate surface stability, cavern size and depth to determine whether a hazard exists or not.
- (b) **Suspended wells:** Suspended wells and capped wells are wells with known operators where drilling or production has been temporarily stopped for some reason. Capped wells are those capable of production but awaiting further petroleum field development or favourable economic conditions. The *Petroleum Resources Act* includes capped wells under the definition for suspended wells. Suspended and capped wells are not a hazard unless someone tampers with them.
- (c) **Improperly plugged wells:** A properly plugged well is one which has been cemented according to the requirements of regulations under the *Petroleum Resources Act*, to prevent the escape of liquid or gas and to prevent migration of liquid or gas within the well bore.

Figure 1: Sites of Former Salt Solution Mining (Brining) Operations of Southern Ontario



Improperly plugged wells are those that do not meet these requirements. Improperly plugged wells may:

- emit natural or sulphur-bearing gases which may pose a health or safety risk;
- seep oil or mineral waters that may affect vegetation and surface or ground water resources.

- (d) **Orphan wells:** Orphan wells are those for which no one has accepted responsibility for being the owner or operator. Orphan wells, unless properly plugged, may pose the same risks as the above-mentioned improperly plugged wells.

Where a petroleum work or operation is not in compliance with the *Petroleum Resources Act* or regulations, the Ministry of Natural Resources can take corrective action to protect public health and safety, including site rehabilitation and the recovery of costs for such remedial actions.

In Ontario, petroleum resource-related hazards are generally limited to the immediate vicinity of existing or former petroleum resource operations found in petroleum production areas or associated with non-productive wells drilled in sedimentary basins of Ontario (**Figure 2**).

Figure 2: Sedimentary Basins and Petroleum Production Areas of Ontario



2

POLICY

Explanation and Implementation

The concern for hazards associated with past petroleum resource and former salt solution mining operations is expressed in policy A3.3, which states that:

"Development₃ will be permitted on a hazardous site only if the site is/has been rehabilitated to remove or mitigate the hazard so that there is no remaining danger to public health or public safety or property damage."

2.1

Policy Explanation

Definitions

1. *Hazardous site* is defined in the Comprehensive Set of Policy Statements as follows:

"Hazardous site means property or lands that have not been rehabilitated which for reasons of public health, safety or potential property damage, could be unsafe for development as a result of naturally occurring or human-made hazards. They may include unstable lands, or areas subject to changes as a result of their previous use as sites for petroleum operations ... sites containing orphan wells, suspended wells, former salt solution mineing sites, and abandoned mine hazards."

Orphan wells and suspended wells are common terms in the petroleum industry. These terms are defined in the next section and in the glossary.

2. *Rehabilitate* is defined in the Comprehensive Set of Policy Statements as follows:

"Rehabilitate means, after extraction, to treat land so that the use or condition of the land is restored to its former use or condition, or is changed to another use in accordance with applicable legislation. ... "

Current petroleum resource and salt solution mining operations are subject to legislative controls that ensure subsequent rehabilitation (see policy F2). This implementation guideline addresses those situations where hazards are a potential from old and largely historic operations that, today, have no known operator or owner.

3. The Comprehensive Set of Policy Statements contains four definitions for development. For the Hazard Policies (policy A3.3), the third definition of development applies; and the subscript number '3' is used to indicate the corresponding definition for 'development' as follows:

"*Development₃* means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill."

In the context of Goal A3 of the Comprehensive Set of Policy Statements (see page 1), development should not occur where site conditions pose a danger to public safety or public health, or create a potential for property damage. Known petroleum hazards are usually located in or around the sites of old, improperly plugged wells and associated facilities. With former salt solution mining sites, the extent of the hazard seldom would exceed a hectare or two. In the context of this policy statement, development should not be interpreted to include development associated with existing petroleum resource operations. On occasion, hazards are not discovered until after development has been approved and site development is under way. Petroleum related hazards are mitigated through site rehabilitation measures when these hazards are discovered.

A hazard can also be caused by improperly designed development near a suspended or capped well. Policy A3.3 (see page 5) indicates that development may be permitted where petroleum and salt solution mining hazards are removed or mitigated through rehabilitation measures. Suggested measures are as follows:

- (a) **Caverns:** Rehabilitation measures for salt caverns are normally achieved through plugging of the brine wells in accordance with the *Petroleum Resources Act* and the *Mining Act*. In these cases development is permitted provided the integrity of the plugged wells is maintained. However, there are three scenarios that a municipality should consider when evaluating development in the vicinity of former salt solution caverns:

- i) there is information or evidence of a significant trend of surface subsidence or cavern roof erosion (sloughing). Mitigation of the hazard may not be feasible and development above the cavern should be restricted.
 - ii) there is little information available about a former salt solution mining site, but the available information suggests that production and cavern size was generally small. Such a site may be deemed as not a hazard and limitation on development would not be required.
 - iii) there is little information available about a former salt solution mining site, but the available information indicates a substantive amount of past production activity and is suggestive of a larger cavern size. In such a case, further information should be acquired, such as the size, shape and integrity of the cavern, to determine the surface stability above the cavern and whether or not a hazard exists, requiring that development be restricted.
- (b) **Suspended or capped wells:** These wells may be temporarily out of production for some reason. They should be considered as petroleum operations and therefore subject to policies under F2. However, if production is not feasible, or the proposed development serves a greater long-term public interest than does resource use (see the policies relating to Mineral Aggregate, Mineral and Petroleum Resources, under goal F2), then the wells must be plugged in accordance with the *Petroleum Resources Act* and regulations. Development should be designed to maintain the integrity of any plugged wells. Further mitigation measures should not be necessary.
- (c) **Improperly plugged wells.**
- (d) **Orphan wells:** Rehabilitation to remove the hazard involves plugging these wells and cleaning up the sites in accordance with the *Petroleum Resources Act* and regulations. To mitigate any remaining danger to the public, development should be designed to maintain the integrity of the plugged wells.

2.2

Implementation

In areas where hazards associated with former petroleum resource operations are known or suspected, conditions of approval should be applied to development to mitigate these types of hazards.

Planning and development controls such as site design, zoning or land use designations are not generally required to address these hazards. Development should not normally be interpreted to include development associated with petroleum resource operations or its associated industries.

In the implementation of this policy, the following points should be considered:

1. When official plans or comprehensive zoning by-laws are being prepared, municipalities should contact the Ministry of Natural Resources or other knowledgeable sources for information regarding the location of any known or suspected petroleum or salt solution mining hazards.
2. Municipalities should develop official plan policies to ensure mitigation, through proper well plugging and site rehabilitation, of known petroleum and salt solution mining hazards.
3. Municipalities should adopt official plan policies to identify known hazards and to restrict development where mitigation is not possible.
4. For site-specific development proposals that are not directly associated with petroleum resource operations or its associated industries, municipalities are encouraged to develop official plan policies that can provide for agreements under the *Planning Act* to address the discovery of petroleum hazards during development and to require that measures are implemented to mitigate such hazards.

Such policies could:

- (a) require proponents of new development to locate, identify and determine, for areas in or adjacent to the proposed development, the condition and limits of any known or suspected underground caverns associated with former salt solution mining, and the location and condition of any suspended, capped or orphan wells and other associated facilities found on the well site;
- (b) require proponents, prior to development proceeding, to ensure that wells which no longer have potential for future resource recovery (subject to policies F2.2 and F2.3), or which pose a hazard to public health and safety, are properly plugged and the sites rehabilitated in accordance with the *Petroleum Resources Act* and regulations;
- (c) require proponents to properly plug and rehabilitate the sites, in accordance with the *Petroleum Resources Act* (or *Mining Act* for salt solution mining) and regulations, of any old wells discovered during development.

3

SOURCES OF INFORMATION

- For:**
- Ontario Petroleum Well Records
 - Petroleum Resources Act and Ontario Regulation 915
 - Petroleum operations and hazard inspection services

Contact: Ontario Ministry of Natural Resources Area Offices:

1023 Richmond Street West
Chatham, Ontario, N7M 5J5

353 Talbot Street West
Aylmer, Ontario, N5H 2S8

P.O. Box 706, Highway 3
548 Queensway West
Simcoe, Ontario, N3Y 4T2

- For:**
- Ontario Well Location Maps
 - CSA Standard Z 341-93 - Storage of Hydrocarbons in Underground Formations
 - Petroleum geological information

Contact: Ontario Ministry of Natural Resources Petroleum Resources Centre
659 Exeter Road
London, Ontario, N6E 1L3

- For:**
- Ontario Geological Survey Reports
 - information on past mining activities
 - information on hazards associated with former salt solution mined caverns

Contact: Ministry of Northern Development and Mines
Resident Geologist for Southwestern Ontario
659 Exeter Road
London, Ontario, N6E 1L3

Appendix

Glossary

Battery:

means storage facilities receiving production from a well or wells. In practice, a battery is considered to be a system or arrangement of tanks, pumps or other equipment constructed to receive fluids (e.g., oil, gas, oilfield brine, etc.) produced from one or more wells prior to delivery to a purchaser or other disposition, or to store fluids prior to injection into the oil pool or brine disposal formation, and may include equipment for separating, measuring or storing the production or injection fluids.

Brine well:

means a hole or opening in the ground for use in brining. For the purpose of implementing this policy, “brine well” means a well which is utilized for the purpose of solution mining of salt.

Brining: see Salt solution mining

Capped wells:

means wells which have potential for production or other operations, but which have been suspended to await further field development (e.g., the building of pipeline gathering systems, the building of processing facilities, better economic conditions or other reasons). See also “Suspended wells”.

Caverns:

means cavities constructed within a soluble subsurface rock formation, commonly rock salt, by circulating fresh water in a controlled manner.

Facilities associated with petroleum resource operations/wells:

means the various types of petroleum resource wells; pipelines connecting individual wells to an operator’s central collection or injection facilities; pipelines connecting the collection or injection facilities to points where custody of oil, gas or other products is transferred to purchasers, refiners or distribution companies; interim storage tanks at the wells or facility sites, metering stations, treatment facilities; and safety equipment.

Gas:

means natural gas.

Oil:

means crude oil, and includes any hydrocarbon that can be recovered in liquid form from a pool through a well.

Operator:

means:

- 1) when used in respect of any operations carried on for the purpose of drilling or plugging a well, a person who has the right as lessee, sub-lessee, assignee or owner to carry on the drilling or plugging operations, and the person who has the control or management of such operations; and
- 2) when used in respect of a well, a person who has the right as lessee, sub-lessee, assignee or owner to the production from the well, and the person who has the control and management thereof, provided that such person either drilled or produced (from) the well.

Plugged well:

means an abandoned petroleum resources-related well (i.e., a well which will no longer be used for petroleum resource operations) in which the well bore has been filled, at several intervals corresponding to the porous and permeable formations encountered by that well, with layers of cement or other impervious material in order to prevent the flow of oil, gas, water, or other fluids through the well bore.

Properly plugged wells:

means petroleum resource-related wells which have been plugged according to the requirements specified in regulations under the *Petroleum Resources Act* (for oil, gas or hydrocarbon storage-related wells) or in the *Mining Act* (for brine wells). Improperly plugged wells are those which do not meet those requirements.

Salt solution mining (brining):

means a mining process in which fluid is injected into a subsurface rock salt formation through a well, dissolves the rock salt to form a concentrated brine and is then extracted. The process results in the formation of a cavern in the rock salt formation.

Suspended wells:

means wells which were formerly active (drilled for petroleum resources-related operations) at which drilling, production, injection, brine disposal or other operations have been stopped. Generally, the operators and/or owners of suspended wells are known to the respective regulatory agency. Includes capped wells.

TABLE OF CONTENTS

1	Introduction	1
2	Policy Explanation and Implementation	2
2.1	<i>Policy Explanation</i>	<i>3</i>
	<i>Linkages</i>	<i>4</i>
	<i>Opportunities</i>	<i>4</i>
2.2	<i>Possible Implementation Approaches</i>	<i>5</i>
	<i>General Context</i>	<i>5</i>
	<i>Implementing B1 in the Community's Official Plan</i>	<i>6</i>
	<i>Implementing B1 in Site-Specific Planning</i>	
	<i>Applications/Development Proposals</i>	<i>8</i>
3	Conclusion	9
	Appendix	
A	<i>The Healthy Community Concept</i>	<i>11</i>
B	<i>Additional Suggested Techniques and Activities</i>	<i>13</i>
C	<i>Social and Human Services Programs of Provincial Ministries.....</i>	<i>15</i>
D	<i>Group Homes.....</i>	<i>17</i>

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Social and Human Services

Implementation Guideline for **Policy B1**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline or to send comments and suggestions for improving future editions, please contact:

Municipal Planning Policy Branch
13th Floor, 777 Bay Street, Toronto, ON M5G 2E5
(416) 585-6225 Fax (416) 585-7540

or contact the social and human service agencies listed in Appendix C of this guideline.

1

INTRODUCTION

The main objective of this guideline is to suggest to municipalities and planning boards a number of possible implementation approaches that would achieve the intent of policy B1. It also aims at encouraging them to look at linkage opportunities across various sectors and interests related to land use planning.

The approaches set out here are not all inclusive. This guideline encourages innovative approaches by municipalities and planning boards, as a way to reflect the diversity and different circumstances of Ontario's people and communities.

Social and human services are vital to the well-being of the people and communities of Ontario. When such services are available, accessible and affordable, everyone benefits; when they are not, the health of our communities may suffer. The cost of neglecting to provide services may be greater than the cost of providing them.

It is generally recognized that planning decisions are influenced by, and in turn can influence, social and human service needs. In making land use planning decisions, the province wants municipalities, and planning boards in northern Ontario, to link consideration of social and human service needs with the physical aspects of growth and development, as well as economic, environmental and other values significant to communities.

The Commission on Planning and Development Reform in Ontario, set up in 1991 to review the (then) existing land use planning process, found that the planning and design of communities plays a part in both the creation and resolution of social issues. Its Draft Report notes that "development is often approved without adequate consideration of the additional expenses incurred for such public services as schools and health facilities", and recommends that communities "should pay much closer attention to the costs and benefits of development".

The Commission's Final Report concludes that "the land use planning system has limited ability to address a wide range of social issues. Any statement of provincial interests in this area must recognize the limitations."

In 1992, the Premier's Council on Health, Well-being and Social Justice found the municipal land use planning process provides opportunities to address many social issues: an adequate supply of affordable housing; a safe natural environment; an accessible transit system; healthy community economic development projects.

Cross-sector collaboration can ensure planning decisions reflect local diversity, prevent systemic barriers to access services and facilities, and take into account budget and funding constraints. Participants in the process may include the province, municipalities, local and aboriginal communities, public and private agencies and organizations, volunteer groups and individuals.

The Comprehensive Set of Policy Statements provides a broad policy framework within which municipalities, planning boards in Northern Ontario, and others can effectively plan to meet social and human services needs through the planning process. Goal B, related to Economic, Community Development, and Infrastructure, is:

"To manage growth and change to foster communities that are socially, economically, environmentally, and culturally healthy, and that make efficient use of land, new and existing infrastructure, and public services and facilities."

Within goal B, policy B1 specifically addresses social and human services needs in the context of land use planning, changing demographics, social trends, overall community goals, and in the context of the government's policy goals for Ontario.

2

POLICY

Explanation and Implementation

Policy B1 says that:

"The linkages between social and human services needs and land use planning should be recognized in land use planning decisions; and opportunities for facilities and services, including *public service facilities*, should be provided to residents diverse in ability, age, income and culture."

2.1

Policy Explanation

Policy B1's intent is to foster healthy communities (see Appendix A for a definition) by encouraging municipalities, planning boards and others to recognize social and human services needs in decisions made under the *Planning Act*. The policy calls for opportunities for facilities and services, including public service facilities, to be provided to all people in the community within the context of its overall future goals and objectives. Ideally, appropriate official plan policies and designations should be included so that spaces, sites or land, as needed, may be reserved for future use or acquisition by an appropriate authority.

Policy B1 is not intended to provide for either the funding or actual construction of human services facilities through the land use planning process.

For the purposes of this guideline, the following social and human services are considered to be addressed by policy B1:

- **Citizenship, Culture and Recreation:** community and recreation centres, meeting rooms and programs, parks and open space, libraries, community information centres, historical and artistic activities, and citizen and immigration services;
- **Education and Training:** elementary and secondary schools, community colleges, universities, skills training, literacy and continuing education;
- **Health:** institutional-based health services, hospitals, nursing homes, health centres, children's treatment centres, community-based health services, medical practitioners, mental health services, public health;
- **Legal and Protection Services:** police, fire, ambulance, legal clinics, the courts, correctional institutions and community-based corrections, as well as emergency response to forest fires, natural disasters, and floods;
- **Social Services:** social assistance, residential and rehabilitation services, child care, child welfare, family support services, programs and facilities to support and assist vulnerable people, and correction and probation services for young offenders.

This list is not all inclusive, as new social and human services and facilities may be developed in the future.

To better understand policy B1, it is useful to note the meaning of key terms that are used in the policy. The following are defined in the Comprehensive Set of Policy Statements: Public Services; Public Service Facilities; and Infrastructure.

Two other key words appear in the B1 policy, but are not defined: Linkages, and Opportunities. The following interpretations are provided.

Linkages

The link between social and human services planning and land use planning within a community is based on the premise that land use planning determines permitted uses through official plans and zoning by-laws. Land use planning can either enable or impede the development of provincially mandated social and human services, depending on the degree to which the linkage is recognized in municipal planning documents.

What this means is that in applying the policies together, there are linkages for example between maintaining places and opportunities for social interaction and the need to conserve elements of the natural environment (open spaces, parks, waterfronts, treed areas) when development occurs. As such, elements of environmental protection and the concept of a "healthy community" can be looked at from the same perspective. Similarly, links can be seen between socially and economically vibrant communities and crime prevention. How a community is planned and development is designed has an impact on safety (e.g., forest fires), personal security (lit walkways), and the economic vulnerability of individuals (such as lack of opportunities for jobs).

The linkage of human services planning with land use planning does not abrogate or devolve to municipalities, the provincial planning authority for such services which fall under the mandates of those ministries providing or governing these services. Rather, the linkage of these planning processes and considerations is intended to bring them together in order to facilitate the achievement of the province's policy objectives in this area.

Opportunities

Communities can provide opportunities for the acquisition of spaces, sites or land for future social and human services facilities through a policy framework in the official plan that calls for specific facilities such as schools and hospitals on a population basis. They can also do so through decisions on site-specific land use planning applications (see subsection 2.2).

In either case, municipalities and planning boards should invite the appropriate social or human services authority to respond to any proposed land use changes in light of projected demographic changes and their implications for services, programs, funding and the need for facilities.

Further, human and social service providers should participate in discussions at the official plan stage, so that they can identify capacity constraints and link their capital planning and funding decisions to projected growth and development patterns.

Opportunities for the future acquisition of sites can also be provided at other stages in the planning process, such as the plan of subdivision.

The land use planning process under Ontario's *Planning Act* cannot be used to require the actual social or human service facilities to be constructed at the time that development of other land uses takes place. Other statutes, such as the *Development Charges Act*, deal with funding and the raising of capital to construct facilities. Note that the lack of funds to purchase or construct facilities has not been seen as a valid reason to delay development in a community.

2.2

Possible Implementation Approaches

General Context

Policy B1 may not be applicable to all land use planning applications or development proposals. Further, a number of social and human services needs, such as income support, do not have a direct land use component that can be addressed in the community land use planning process. Land use planners and decision makers need to distinguish between human services issues that have a land use connection and those that don't. In many cases, the principal connection is the need to allow interested parties to interact, or to ensure equitable access to facilities.

If the policy applies, then the steps outlined in the section on implementation dealing with site-specific proposals should be followed.

Policy B1 cannot be implemented in isolation. Please also read all of the goals and policies in the Comprehensive Set of Policy Statements, as well as the related implementation guidelines. Particular attention should be paid to goal B and the other 16 goal B policies.

In implementing policy B1, municipalities and planning boards should be aware of the following general matters concerning social and human services:

1. *Services are provided* by all levels of government, including: numerous boards and commissions; non-profit and charitable organizations; community groups; private organizations; businesses and corporations; volunteer groups; and individuals. At present, a number of provincial ministries plan, fund and arrange for the delivery of human services, such as educational opportunities, health care services, and other social services. These may be planned for and/or delivered through ministry area offices across Ontario, or provincially designated agencies such as school boards, district health councils, or transfer payment agencies. For more information and contact numbers, see Appendix C - Information on Social and Human Services Programs of Provincial Ministries.

2. *Funding*, which is often critical to the provision of services, can come from all levels of government, charitable donations, fees charged for services, donated time, or other sources. Some services are dependent on one government ministry for funding, while others have diverse funding bases. Some government funding is mandatory, but much is discretionary and increasingly under constraint.
3. *Services are governed and controlled by*: legislation and regulation at all levels of government; the policy and funding decisions of government and other sources; the decisions of agency boards of directors; the rules and regulations of professional bodies; and the individual choices of consumers and clients.
4. *Jurisdiction and catchment areas* vary greatly in size and may overlap, compete and conflict.
5. *Planning* for services occurs within and among: all levels of government; public non-profit and private community agencies; service providers; local planning and advocacy groups; volunteers; and clients.
6. *Participation in and provision of services* can be mandatory (e.g., elementary and secondary education, public health, corrections); discretionary; or voluntary.

Implementing B1 in the Community's Official Plan

An initial step toward implementing policy B1 may be to incorporate its intent into a community's strategic planning exercises. The strategic plan could identify social and human planning components, such as recreation, schooling, day care, facilities geared to seniors, women, disabled, aboriginals, and affordable housing, and indicate the community's objectives for these.

Otherwise, the preferred place to link social and human services and land use planning is in the official plan, which is the main land use planning tool available to municipalities, and planning boards in the North, to set out their communities' overall growth and development strategies and goals. The official plan should be developed using an approach which links social and human services, hard services and land use planning considerations in a coordinated manner.

Once incorporated into the official plan, the municipality or planning board should be able to address social and human services throughout the land use planning process, including decisions on zoning by-laws, plans of subdivision, land severances or consents, minor variances, and site plan applications.

The official plan could translate the community's broad social and human services objectives into targets (e.g., equal access) related to population projections, existing and proposed infrastructure, support services and land uses.

Criteria could be included for determining the amount and location of future social and human services facilities to be provided. Also, policies for different types of such facilities could be set out. Further, the land use schedule in the official plan could identify the desired locations of future social and human service facilities.

Suggested Official Plan Approaches

The following approaches are based on common attributes of a good community planning process, as derived from the experience of Ontario's people and communities. They can be implemented in either upper-tier or lower-tier official plans.

Please note that other, innovative policies/approaches are encouraged as a way of reflecting the diverse nature and circumstances of Ontario's municipalities and northern planning areas.

General Approach to Healthy Community

A municipality or planning board can implement policy B1 by using the healthy community approach to develop policies for its official plan (see Appendix A for details).

Specific Approach - Focusing on Discrete Issues

A community can also implement policy B1 by developing policies for its official plan which focus on specific aspects of social and human services that are important to its overall health and/or significant to its residents.

If, for example, crime prevention is a particular concern, the official plan can set aside appropriate sites and land for preventive and rehabilitative services. Policies governing community design and land use planning can prevent or reduce crime by ensuring public access to and visibility in common open areas; promoting mixed uses for recreation, shopping and community service agencies in store-front operations; and providing for a mix of condominiums, freehold, rental and assisted housing, to create neighbourhoods that are less prone to criminal activity.

A rural municipality or planning board might also use the specific approach to minimize the impact of forest fires on natural and built environments. Fire hazard management and fire prevention in high-risk areas could be recognized as a general goal in the official plan. Policies could address new development and appropriate land uses in high-risk areas. These areas would be shown on the land use schedule of the official plan, and superimposed on the actual land use designations to indicate a constraint on development.

The specific approach can also be used for schools, hospitals and other human and social services facilities. Policies and land use designations reserving sites for future acquisition can be included in the official plan, along with general policies addressing the time frame in which the

facilities should come on-stream.

By focusing mainly on those matters that apply to or are important to the particular community, official plan policies can be developed that better reflect the diversity of Ontario's municipalities and planning areas.

Implementing B1 in Site-Specific Planning Applications/Development Proposals

Planning authorities should keep in mind the broader intent of policy B1 when evaluating site-specific planning applications. To this end, decision makers considering a site-specific official plan amendment, a proposed plan of subdivision, a condominium plan, a zoning by-law, a land severance/consent, a site plan application or any other proposal (e.g., part-lot control) that requires an approval under the *Planning Act*, should:

- consider the application in light of the applicability of B1 and the other policies in the Comprehensive Set of Policy Statements;
- assess the impact and spatial relationships that the application might have in light of the social and human services listed in section 2.1 of this guideline and, through consultation with appropriate stakeholders, determine whether and how the planning proposal should address policy B1 (e.g., through the provision of opportunities for future facilities or services). Consideration may be given to the funding requirements and capabilities of the service providers; the standards used to identify and develop facility and land use needs; and innovative service delivery and facility opportunities (e.g., to provide space in the building or on the site for a legal aid clinic, community information centre, food bank, or parent-child drop-in centre);
- consider the opportunities that the proposal presents for helping to achieve the community's social, economic and environmental goals, as set out in the official plan (and Human Services Plan, where one exists).

If, for example, official plan policies for a community encourage mixed-use developments and multi-use facilities, decision makers might approve a zoning by-law proposal that involves the shared use of a building, space, or site by compatible uses or activities (e.g., offices and day care for children).

Where a community's human services plan encourages use of the site plan approval process to ensure that buildings and facilities are designed to accommodate persons with physical disabilities, decision makers could, under the *Planning Act*, address site details such as walkways, ramps, pedestrian access and grading, to ensure access.

When a local parks and recreation department requests that space be set aside for facilities

during a site-specific residential subdivision plan application, decision makers can include in their draft approval a condition that up to 5% of the site be dedicated to parkland or that a cash-in-lieu payment from the developer be used to achieve park or recreational objectives elsewhere in the community. Similarly, decision makers can set aside a block within the subdivision plan for a future school site at the request of a local school board.

Once the official plan has been revised and approved to reflect the Comprehensive Set of Policy Statements, individual planning applications or development proposals can be reviewed mainly in light of the land use policies and designations in that official plan.

3

CONCLUSION

When land use planning reflects linkages with social and human services needs, it can provide significant opportunities for:

- coordinating, phasing, and staging development activities in liaison with provincial ministries and other public and private agencies so that human services and facilities can be made available for development that takes place;
- removing systemic planning restrictions, and barriers for marginalized people;
- providing policy direction for future growth and development based on a positive relationship between community, environment and the economy;
- coordinating the provisions of a Human Services Plan, if one exists, with the official plan process to help ensure that human services are accessible, cost effective, and sensitive to the diverse human development needs of the people in the community;
- reducing the isolation of social and human services planning from the mainstream of a community's land use planning considerations; and
- more effective and early public participation in determining the preferred outcomes of planning for a municipality or planning area.

The province wants municipalities and planning boards, in conjunction with all stakeholders in community planning and human services planning, to identify the areas of their communities where growth and development will take place. Municipalities and planning boards should provide opportunities for social and human services. At the same time, those who plan and provide such services have a responsibility to involve themselves in the land use planning process early, when addressing their concerns is easier.

Through a community planning process characterized by inclusiveness and participation, mutually valued goals are established for the community and set down in the official plan as specific outcomes of benefit to all the people of the community.

Appendix

The Healthy Community Concept

Generally, the characteristics of a “healthy community” include:

sustainable development, environmental protection, equitable access to employment, education and training, and other opportunities; strong community networks, personal safety, convenience, and public health.

Many communities that have adopted the concept of a healthy community as one of their chief goals have adopted the United Nations’ definition of health: “a state of physical, mental and social well-being”.

Others have adopted the concept developed by Dr. Hancock of York University, in which health consists of a balanced relationship between a viable, sustainable and livable environment; an equitable, sustainable and adequately prosperous economy; and a liveable, convivial and equitable community.

The Premier’s Council on Health Strategy has developed a Vision of Health, as follows:

“We see an Ontario in which people live longer in good health, and disease and disability are progressively reduced. We see people empowered to realize their full potential through a safe, non-violent environment, adequate income, housing, food and education, and a valued role to play in family, work, and the community. We see people having equitable access to affordable and appropriate health care regardless of geography, income, age, gender, or cultural background.”

The first step in the healthy community approach is an evaluation of the policies in the community’s existing official plan. In accordance with the *Planning Act*, the people of the community, and in particular those who use or provide social and human services, should be consulted to help develop a vision for a healthy community. They should also have input on general planning issues related to land use and human services needs and facilities.

Some communities have developed Human Services Plans, which include planning considerations for health, safety and security, educational, cultural, recreational and other social services. Local decision makers can use Human Services Plans to revise draft official plan policies to reflect community social values and demographic projections.

What is essential is that common terminology and agreement on the ultimate goal(s) of community planning must be developed. Setting out healthy communities determinants clarifies the community’s planning objectives and make it easier for decision makers to focus on the social and human services needs which have

land use implications.

Determinants can be developed for:

Adequate Basic Material Need Satisfaction, including shelter, food, and other necessities; safe and accessible transportation; and accessible communications.

Economic Security and Opportunity, including full employment; income security; and economic development opportunities.

Security (and personal safety), including strategies to mitigate public and domestic violence and abuse; consumer protection and safety; crime prevention, protection from threat and disaster; and the guarantee of rights and opportunities.

Knowledge and Skills, including basic and supplementary education.

Social and Emotional Functioning, at various stages and conditions in life (e.g., age, disability); religious and spiritual life, and cultural life.

Opportunity to Influence Decision Making in the Community, including the empowerment of people; resource development for community programs; and access to information.

Environmental Sustainability, including a quality physical environment; the conservation of natural resources; the promotion of human health in healthy environments; and public involvement in environmental decision making.

Health, including affordable health care; and the promotion, preservation and maintenance of good health.

Determinants can be used to generate Human and Social Development Goals, Objectives, and Needs, based on demographic factors and social indicators, for inclusion in the Goals and Objectives section of the official plan. The next step is to develop draft official plan policies and land use designations that reflect the determinants. After further consultation with stakeholders and any consequent revisions, the municipality or planning board adopts the plan.

(For a more detailed description of the process, please refer to Planning for People and Communities, pages 30 to 45 inclusive of the 1992 report of the Provincial - Municipal Human and Social Development Working Group.)

Appendix

Additional Suggested Techniques and Activities

a) *Outreach*

Planners and politicians can benefit from informal talks with people in their communities who provide social and human services, as well as people who use them. Closer personal links will lead to a better understanding of needs and more equitable access to services for all community members. This is in keeping with the province's recognition of the need for cross-sectoral planning and delivery of educational, health, and social services (e.g., the use of school facilities to deliver health and social services to children).

The City of London's Vision Circle program is a good example of an informal outreach program which involved people from many sectors in the early stages of developing a future vision for the community.

b) *Consultation*

Formal connections with stakeholders, provincial ministries, public agencies, community groups, volunteer organizations, and others are also necessary to achieve the intent of policy B1. Usually, the broader and more complex the community planning activity, the more sectors of society and stakeholders need to be included.

The *Planning Act* requires municipalities and planning boards to ensure that:

1. Adequate notice and information on specific planning proposals are provided to the public early in the process. For interested individuals, as well as community groups and social agencies, effective participation in the land use planning process in order that social and human services needs can be coordinated with physical planning, often requires the formation and maintenance of working partnerships; and
2. Consultation on planning proposals takes place before decisions are made. For this purpose, the *Planning Act* requires that at least one public meeting be held, which is open to the general public and anyone with a specific interest in the matter. Broader resident input into land use planning issues is seen as an important result of the Government's current initiatives to empower local decision making.

Municipalities, and planning boards in the North, working with residents and community stakeholders, are best positioned to assess and address the local implications of trends, such as:

- the accelerating pace of change;
- increasing complexity in the needs of individuals and communities;
- an increase in the number and type of services and deliverers;
- increasing interrelatedness of service sectors;
- increasing pressure on governments and communities to do more with fewer resources;

- greater emphasis on accountability/responsiveness to customers;
- focus on and promotion of the healthy communities concept.

c) *Strategic Plan*

Many communities recently have developed strategic plans that address a wide scope of issues beyond land use planning. The strategic plans enable local decision makers to anticipate, rather than react to, change; to look at budget and capital funding issues across various sectors and interests; and make decisions on planning proposals in a coordinated way.

Land use planning is often a key element of strategic planning, and a number of activities that lend themselves to the process of coordinating human services needs with physical land use planning are carried out at the municipal or planning board level, including: consultation with local stakeholders; goal and priority setting; needs assessment; research and data analysis; creating partnerships and working relationships in the community; advocacy and public education; coordination of social and human service needs with land use planning considerations; and monitoring the effectiveness of land use planning policies.

d) *Applying the Principles and Process of Economic Development Strategies to Human Services*

Policy B4 encourages the preparation and implementation of economic development strategies in order to provide a coordinated approach to a community's economic development. There is no similar encouragement in policy B1 for municipalities or planning boards to implement a Human Services Plan. However, municipalities such as Halton Region and Metropolitan Toronto have adopted Human Services Plans and found they can be very effective at linking social and human service objectives with physical land use planning objectives at the official plan level.

When a Human Services Plan is used to interpret social issues and define land use-related social and human service objectives, a more manageable analysis of the appropriate land use approach results. A Human Services Plan can also facilitate development of official plan policies and designations to deal with a community's social and human needs.

Appendix

Social and Human Services Programs of Provincial Ministries

Ministry of Health

- Community Health Centre Program
- Public Health Services
- Community Mental Health
- Provincial Psychiatric Hospitals
- Homes for Special Care
- Private Hospitals
- Public Hospitals
- Emergency Health Services Branch Air and Land Ambulance Sections
- In-Home Services
- Residential Services (Long-Term Care Facilities)
- Supportive Housing
- Independent Health Facilities

(for more information please contact the Association of District Health Councils of Ontario: 416 -222-1445)

Ministry of the Solicitor General and Correctional Services (MSGCS)

- Fire Protection Services (contact Office of the Fire Marshal - 416-325-3100)
- Policing Services, Municipal (contact Policing Services Division - 416-314-3000)
- Ontario Provincial Police (contact general inquiry - 416-327-9167)
- Correctional Services (contact Correctional Services Division - 705-494-3356)
- Residential Services - Group Homes for Adults/Young Offenders (contact Correctional Services Division 705-494-3370)

Ministry of Community and Social Services (COMSOC)

- Child Care Centres
- Children's Aid Societies (CAS)
- Child Treatment Services
- Community and Neighbourhood Support Services
- Hostel Services
 - Emergency Shelters
 - Family Violence Shelters
 - Domiciliary Hostels
- Developmental Services
 - Developmental Disabilities (Schedule I and II)
 - Group Homes
- Sheltered Workshops
- Young Offenders' Services
 - Detention
 - Open Custody
 - Secure Custody
- Halfway Houses

For more information on the above, contact local area COMSOC offices.

Ministry of Education and Training (MET)

- Elementary and Secondary Education
 - Kindergarten and Child Care Facilities
 - Public and High Schools
 - Adult Education
- Post-Secondary Education (Provincially Assisted)
 - Colleges of Applied Arts and Technology
 - Universities
 - Denominational Colleges and Universities

For more information, contact MET (416)325-2929

Appendix

Group Homes

The Government of Ontario supports the right of persons with special needs to reside within their own communities.

Group homes and other supportive housing arrangements present community living options for many Ontario residents with special needs. As of 1978, the province has formally encouraged municipalities to permit group homes to locate in all residential areas “as of right”.

Information on the wide range of human and social services programs related to several provincial ministries is set out in Appendix C. A brief listing, by program type, of the group homes supported by specific provincial ministries, follows:

Ministry of Community and Social Services

1. Residential services for persons with developmental disabilities are provided in community settings, such as group homes, and are operated by approved corporations, usually local Associations for Community Living. The objective of the program is to provide the least intrusive setting in which residents can function effectively and reside permanently, or where the client can develop to the point where he/she can live on their own with the assistance of only support services and/or day programming.
2. Group homes for children with special needs which are licensed under the *Child and Family Services Act*.
3. Half-way houses provide accommodation and rehabilitative services for alcohol and drug addicts, ex-offenders and socially disadvantaged persons. The homes are operated by non-profit agencies.
4. Group homes for young offenders, for the 12- to 15-year-old age group, are licensed under the *Child and Family Services Act* and provide for detention as well as custody. Open custody for young offenders is provided through a broad range of community-based facilities including children’s community residential centres, group homes, Children’s Mental Health Centres, and foster homes.

Ministry of Health

1. Housing programs with support services for mental health consumers are generally located in residential or rural areas. Housing programs can consist of support for the mentally ill in apartments, houses, co-ops, or group homes. The programs are operated by non-profit organizations which may own or lease the accommodation.
2. Long-term care funds supportive housing in communities for elderly persons, people with physical disabilities and acquired brain injuries (ABI), and for people who are living with HIV/AIDS. The accommodation for some of these groups (i.e., ABI behavioral programs and early senile dementias) includes group home accommodation in communities provided by non-profit agencies.

Ministry of the Solicitor General and Correctional Services

1. Residential service (group homes) for adults in Community Resource Centres or under Community Residential Agreements.
2. Residential services (group homes) for young offenders (16 and 17 years of age) who, by court order, are required to reside in open custody settings.

Land Use Implications of Group Homes

In certain cases, current land use planning practices and policies, including restrictive zoning by-laws, may impede the establishment of group homes and community living arrangements for persons with special needs by:

- limiting new group homes to non-residential areas
- subjecting facilities to restrictive standards (e.g., number of residents).

Such restrictions may have the following impacts:

- prevent provincial ministries from meeting their legislated mandates for program delivery (i.e., to provide services in the community for persons with special needs)
- group homes for persons with special needs may be unable to locate in communities where they are required.

As a result, there may also be significant resource implications for provincial ministries and community agencies which manage group homes and provide services. Considerable time and effort is often required to negotiate with municipal planners and decision makers and/or initiate challenges to restrictive municipal planning and zoning practices. Sometimes, the facilities which are permitted find themselves subject to unreasonable size restrictions, so that costs per resident increase.

Any zoning by-law which regulates group homes should be consistent with applicable human rights legislation and case precedent, including:

- section 15 of the Canadian Charter of Rights and Freedoms;
- Part 1 of the Ontario Human Rights Code;
- subsection 35(2) of the *Planning Act*; and
- *Alcoholism Foundation of Manitoba v. City of Winnipeg* (1990), 69 D.L.R. (4th) 697, [1990] 6 W.W.R. 232, 65 Man. R. (2d) 81, 49 M.P.L.R. 1 (Man. C.A.), leave to appeal to S.C.C. refused 4 M.P.L.R. 60n.

Considering the above, zoning by-laws should not have the effect of infringing the human rights of individuals and, in particular, should not distinguish between residential uses of property on the basis of the personal characteristics of individuals occupying the land and premises.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Public Streets and Facilities Used by the Public

Implementation Guideline for **Policy B2**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when

decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

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1

INTRODUCTION

Public spaces can enrich the fabric of our communities. They can serve as the scene for cultural, social, recreational and economic activity. Planning to make these areas conducive to pedestrian travel is an essential component of good community design.

Safe, vibrant, accessible public streets and facilities are a necessary component of healthy communities. The ongoing safety, viability, and accessibility of public streets and facilities used by the public is of interest to all the residents of the province, whether they live in a rural or urban environment. Public streets and places, and facilities used by the public are of little utility if they are unsafe, crime ridden, unused, or inaccessible to segments of our society.

Any measures which can be taken through the land use planning process, that can address safety issues and concerns, can contribute to the objective of decreasing the opportunity for crime to occur while increasing the effectiveness and reducing the cost of police, fire and other emergency services. The guideline for policy B1 should be consulted for more information on those topics.

2

POLICY

Explanation and Implementation

Policy B2 states that:

"Public streets and places, and facilities used by the public, should be planned to meet the needs of pedestrians and to be safe, lively and accessible to all, including the disabled."

2.1

Policy Explanation

Public Streets and Places, and Facilities Used by the Public

The policy refers to public streets and places, and facilities used by the public, but the terms are not defined in the policy statements. Examples of places and facilities where safety and accessibility would be important considerations include:

- public roads, streets, bridges and underpasses designed to accommodate local traffic and pedestrian use;
- sidewalks;
- transit stops and stations;
- public squares, parks and sitting areas;
- public buildings such as municipal offices, libraries, schools, and community centres;
- alleys and laneways;
- parking lots and garages;
- bicycle routes, walking paths and trails;
- underground malls and pathways; and
- pedestrian tunnels/underpasses.

Planning to Meet the Needs of Pedestrians and the Public

Pedestrians are those who travel on foot or the equivalent at walking speed. This includes people with baby strollers, shopping carts and wagons; children on tricycles, bicycles and roller skates; and people in wheelchairs and motorized scooters.

Planning to foster pedestrian travel involves looking at the basic needs of pedestrians:

- short walking distances (based on, in settlement areas, the concept of the "five minute walk");
- smooth, unobstructed pathways;
- identified walking areas separate from vehicular traffic;
- frequent crossing areas;

- accessibility and egress;
- good lighting;
- personal safety; and
- unobstructed sightlines.

More information on implementation mechanisms to address these issues is found in section 2.2 of this guideline, and in *Transit Supportive Land Use Planning Guidelines*.

Planning for pedestrian needs is related to the second part of the policy: designing public streets and places and facilities used by the public to be safe, lively and accessible to all, including the disabled.

Safe Streets and Facilities

There is no magic formula that can be applied to guarantee the safety of specific areas. Issues related to safety may vary widely across the province, and solutions that will work in one area may be inappropriate in another. However, safety should be a universal consideration for both urban and rural settings, and there are some simple principles that can increase the general level of safety in a community and enhance the enjoyment of public spaces.

Planning for safety is a process of identifying potential safety concerns and working with the community at large to develop solutions that work for the community. This process may involve discussing specific issues related to safety with agencies such as the police and fire departments, with the community at large, and with others who may have an interest. For example, there may be communities where planning to avoid danger from forest fires or mining shaft subsidence would be an important consideration in the land use planning process.

Several components have been identified as important in planning to increase personal safety.

- **"Eyes on the street"**

Potential victims are more likely to be aided by others if they are visible to potential rescuers. Land use planning should attempt to increase the number of "eyes on the street", to reduce the threat of crime.

- **Avoiding or eliminating hazardous conditions through design and effective use of the built environment**

Measures that may be taken to avoid or eliminate hazardous conditions may include:

- protection of pedestrians from traffic;
- appropriate lighting so that potential victims can see and avoid impending danger;
- providing good sight lines;
- design to minimize the impacts of movement predictors and entrapment spots.

More information on implementation mechanisms to address these issues is found in section 2.2 of this guideline. The guidelines regarding the policies of goal A3 should be consulted when planning to avoid physical hazards.

- **Logical design**

Tools such as clearly marked exits and logical design can increase the likelihood of a victim escaping, or finding help in emergency situations, and can assist emergency personnel in locating and assisting the victim. For example, in the design of streets, long stretches of roads without cross streets should be avoided wherever possible, so that alternative routes are available for pedestrians and emergency vehicles in the case of emergency. Streets should also be designed to promote vehicular safety.

Lively and Accessible Streets and Public Facilities

This issue is closely tied to the other components of the policy. The liveliness of public streets and places is directly linked to safety in that the presence of other people is the most important deterrent to criminal activity. Streets that have an appropriate mix of uses, which operate during daylight and evening hours, are lively and therefore safe. Pedestrian movement contributes to the safety and vitality of these areas.

In fact, design to promote the use of public streets and facilities by pedestrians is important not only to the implementation of this policy but also to several other policies in goals B and E. The presence of people, interesting shop windows, front porches, public art and music and other cultural and social activities can enhance the quality of the pedestrian environment and enrich the identity of a community, whether a village, town or district of a large city.

This policy applies to all pedestrians: the young, the old; men, women; able-bodied people and those with physical disabilities. People with disabilities have the same rights as other taxpayers to use public streets and facilities, but their mobility and their ability to gain access to these facilities can be hindered unless impediments are reduced or eliminated through poor urban design. The policy applies to all types of trip purposes.

Information on implementation techniques is included in section 2.2 of this guideline as well as the guidelines for other policies of goals B and E.

2.2

Possible Implementation Approaches

There is no "cookbook" for official plan provisions regarding the implementation of this policy, since the issues faced by municipalities vary considerably. However, there are some simple common principles which can be applied differently in urban and rural situations. What is important is early and ongoing discussions with the groups and agencies who are directly affected to develop appropriate official plan policies and designations regarding safety and accessibility. It is also important that all the policies of the Comprehensive Set of Policy Statements be read together, and that solutions which work from a safety or accessibility perspective be evaluated in the context of the other policy statements as well.

For example, reverse frontages, privacy fences, and blank walls have been identified as possible impediments to public safety and access. However, there are often good reasons for incorporating these features for noise control or traffic safety purposes. The development of policies and design guidelines should be a collaborative and cooperative process so that a comprehensive review can occur and so that creative solutions can be found to address these apparent conflicts and meet the needs of all users.

This policy should be applied in the consideration of new development proposals as well as in the retrofitting of existing streets, places and facilities.

How Can Land Use Planning Address the Needs of Pedestrians?

Accessibility by pedestrians can be achieved through a combination of measures which relate to density, land use, and urban design. Specific measures should reflect the size and character of the community, and should be developed as part of the background discussions for the official plan.

Measures to improve pedestrian access may include:

- incorporating official plan policies and designations which promote a compact form (which reduces travel distances), a mix of uses that support pedestrian activity and the provision of public transit;
- planning for a pedestrian and public transit network, including sidewalks where appropriate, or clearly marked routes where sidewalks are not provided.
- developing design guidelines for public streets and facilities that encourage pedestrian access.

The *Transit Supportive Land Use Planning Guidelines* set out suggestions for making public streets more accessible and attractive to pedestrians. Readers are encouraged to review sections 2.2.4, 2.4.2, 3.2.1, 3.2.2, 3.3.4, 3.4.1, 3.5.1, 3.5.2, 3.5.3 and 3.6.1 of that guideline for more information on design for pedestrian-oriented activity.

The guidelines for policies B3, B5, B8-11, and E2 should also be consulted.

How Can Land Use Planning Address Safety Issues?

Public safety should be an important consideration in all development approvals. New development should be designed to provide overlook and easy physical access to adjacent publicly accessible and private open space, and allow space to be seen easily from streets and other public areas. The police and fire department and other agencies responsible for emergency services should be consulted early in the land use planning process. These groups can identify potential safety and security issues, and assist in the development of a strategy to resolve them, which can be reflected in official plan designations and policies as well as in site design. They can provide valuable input on matters such as proposed patterns of land use, location of public facilities and street patterns, measures to address high crime areas, and potential impediments to emergency response. They may also be able to provide names of contacts from appropriate citizens' groups or interested agencies.

For this reason, this guideline is not suggesting specific standards.

However, some of the following measures may be considered in the preparation of official plan provisions and development proposals:

- **"Eyes on the street":**

Communities can increase the number of "eyes on the streets" by:

- designing buildings so windows and balconies overlook pedestrian routes and parking spaces;
- improving the mixture and intensity of land uses, so that there is more activity for longer periods of time. A good mix of land uses is not only good urban design (see the guidelines on policies B3, B4 and B5), it is also important for safety reasons;
- using activity generators to make places more secure by populating them. This may involve increasing the scope of recreational facilities in areas adjacent to pathways through parks, placing housing in commercial areas, encouraging at-grade uses, or adding outdoor cafes to office buildings;

- increasing the feeling of community ownership; and
- locating new development adjacent to existing compatible development.
- **Avoiding or eliminating hazardous conditions**

Measures that may be taken to avoid or eliminate hazardous conditions may include:

- protecting pedestrians from traffic;

(Please see section 3.3.4 of the *Transit Supportive Land Use Planning Guidelines* for more information on this topic.)

- providing for appropriate lighting:

Lighting can help or hinder a person's ability to be aware of his/her environment.

Improved lighting can give a potential victim the opportunity to get a good enough look at approaching people to avoid dangerous situations while flight is still possible. Consistent lighting can help to avoid dangers caused by a pedestrian or driver being temporarily unable to focus after going from full to dim light.

Decisions regarding the use of lighting should be discussed with local police. Sometimes lighting can give the misleading impression that an area is well used or regularly patrolled, and therefore less dangerous. Lighting alone won't make an area safe, and lighting can add to the problem it was designed to overcome.

- providing good sight lines;

Features such as corners, walls, earth berms, privacy fences, bushes, or pillars can block visibility and decrease the ability of motorists and pedestrians to be aware of their environment. Their use should be carefully evaluated, and the benefits weighed against the safety implications.

- designing communities to minimize the impacts of movement predictors and entrapment spots.

A movement predictor is a route or path that offers no choice to pedestrians. Features such as tunnels, pedestrian bridges, moving sidewalks, or staircases may be of concern from a safety perspective where they are isolated and where they may serve as an unintended "drop-off point" for delivering victims to criminals.

Entrapment spots are small, confined areas which are visually isolated and which have potential as crime sites. Examples may include parking lots, stairwells, or gaps in shrubbery. These areas should be locked during off hours, patrolled, designed to provide maximum visibility, or monitored.

- providing for the adequate distribution of public telephone booths to be used to summon help in emergency situations.
- **Logical Design:**

Logical design means planning streets and public spaces and taking other measures to assist response to emergency situations.

Streets should be clearly named and houses numbered, even where there is no mail delivery, to assist emergency vehicles such as fire trucks and ambulances in responding to emergency situations. Signs indicating directions to major streets can also help potential victims avoid dangerous situations.

Streets running through residential areas can be made more safe for pedestrians by utilizing traffic calming measures and by designing intersections and turning lanes to accommodate pedestrian traffic.

Unsafe areas should be identified, and discussions with emergency service providers undertaken to see what measures can be undertaken through the land use planning process to make these areas safer. The staging of development may be planned so that public facilities are built soon after residential development so that residents have something to do; and so that development is built out from existing facilities such as transit stops so that there are not vast expanses of uninhabited area between new and existing areas; or that the vacant area is fenced, well lit and secured.

Logical design also means avoiding areas where development is precluded by the policies of goal A3.

Accessibility by Pedestrians with Physical Disabilities

Measures to improve accessibility to public streets and places and facilities used by the public include:

- where sidewalks or walkways are to be installed:
 - providing curb cuts at intersections which allow access by wheelchairs (as well as strollers and shopping carts) while still allowing identification of the intersection by the visually impaired;
 - using durable, smooth, non-slip, all weather surfaces and finishes; and
 - avoiding steep changes in level of streets or walkways.
- keeping pedestrian areas free of obstructions, including snow and ice;
- providing voice-activated signals at intersections; and
- installing tactile warning strips along the edge of walkways or other routes.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Mainstreets and Downtowns

Implementation Guideline for **Policy B3**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

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1

INTRODUCTION

Downtowns and mainstreets serve as a focal point for a variety of functions which are important to the community: commercial, administrative, cultural, residential, and social. In many communities, they also serve as a primary node and activity corridor for transit. They often establish the typical characteristics of a community, and their ongoing viability is important to the community's identity.

2

POLICY

Explanation and Implementation

Policy B3 states that:

"The well-being of mainstreets and downtowns should be fostered."

2.1

Policy Explanation

A downtown is often the central business district of a community. This is the area where retail, office, residential, institutional, social, and cultural uses are concentrated.

Mainstreets are areas along major collector or arterial roads where pedestrian-oriented commercial and office development occurs, often with residential development above the retail or commercial uses.

Healthy downtowns and mainstreets are important not only in major metropolitan areas but also in smaller rural communities. Downtowns and mainstreets provide a focal point for community activities, and the vibrancy of downtowns and mainstreets can be important for defining the character of a community.

Policy B3 encourages communities to foster the well-being of these areas. Well-being can be measured by a range of indicators, some of which are addressed by other policies of goal B: economic activity, pedestrian environment, accessibility, safety, mix of uses, building conditions, the range of entertainment and cultural activities, and vacancy rates.

Policies regarding downtowns and mainstreets and their relationship to other commercial areas should be developed to complement the community's overall economic development strategy.

2.2

Possible Implementation Approaches

Communities can foster the well-being of downtowns and mainstreets in several ways. Examples are:

- provide for a mix of land uses that attract people both during the day and in the evening;
- encourage intensification, mixed uses, the use of under-utilized portions of existing buildings and, where appropriate, redevelopment;
- evaluate and, where appropriate, amend planning designations, zoning standards and design guidelines to promote redevelopment of downtowns and mainstreets;
- encourage the establishment of Business Improvement Areas, which will initiate physical improvements to make the area more attractive and safe;
- plan for and upgrade infrastructure facilities which support healthy downtowns and mainstreets;
- provide good transit connections and parking facilities to encourage use;
- make best use of the tourist potential of unique physical characteristics such as historic buildings or cultural and social activities to draw people to the downtown;
- evaluate applications for peripheral commercial areas and business parks based on their potential impact on the viability of established commercial areas;

- consider the potential contribution to the well-being of downtowns and mainstreets when making decisions on the location of municipal facilities such as town halls and day care centres;
- evaluate, and if needed, prepare and implement strategies to maintain a residential population base in and adjacent to downtowns and mainstreets.

The policies for downtowns and mainstreets are closely linked to policies B2 and B4, as well as to several other policies of goals B and E. For example, the maintenance of an attractive pedestrian environment, which is addressed in policy B2, is a crucial component in fostering the well-being and safety of downtowns and mainstreets. For this reason, official plan and zoning by-law provisions and designations which implement this policy will also contribute to those other policy objectives.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Diversified Economic Base

Implementation Guideline for **Policy B4**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

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1

INTRODUCTION

A healthy economy is vital to Ontario's ongoing prosperity. Investment provides tax dollars to support social infrastructure and environmental initiatives. As a result, the continued vitality of the province's economy is of prime importance to Ontario's environmental and social vitality.

The emphasis of policy B4 is on sustainable economic development which integrates social, economic and environmental factors.

All levels of government have a role to play in supporting sustainable economic activity. Municipalities can develop realistic economic development strategies and implement them, where applicable, through several means, including official plans and decisions on planning applications.

The province, through means such as support for community economic development, provincial planning, investments in infrastructure and other government programs, can help to create a positive environment for economic growth. The streamlining provisions of the *Planning Act* will enable municipalities to expedite sound applications which conform with official plans but require other approvals under the Act, as well as those which reflect the community's vision but require an official plan amendment.

Policies affecting the economy are found throughout the Comprehensive Set of Policy Statements. For example, goal D policies regarding agricultural land provide for a physical base on which agriculture can thrive. The policies also recognize the agriculture-related activities which occur close to farms. Policies regarding mineral aggregate extraction and mining are addressed in goal F.

2

POLICY

Explanation and Implementation

Policy B4 states that:

"Communities should be planned and developed to provide opportunities for a diversified economic base which:

- supports a healthy, stable economy;
- enhances employment opportunities;
- fosters and promotes sustainable economic activity;
- builds on the community's advantages; and
- integrates economic, social and environmental considerations.

In order to provide a coordinated approach to economic development, the preparation and implementation of economic development strategies is encouraged. The provision of *infrastructure* to support sustainable economic development should be addressed as a component of this strategy."

2.1

Policy Explanation

Opportunities for a Diversified Economic Base

A healthy economy may depend on participation from a wide variety of sectors and businesses. As a result, economic development is more than just industrial and commercial development - it includes all activities of a community's residents which generate revenue.

The act of designating a site for economic activities does not guarantee that the site will be used for that purpose. Instead, planning establishes the rules through which the foundation for economic development is laid. Planning documents which anticipate economic growth and try to accommodate it can be valuable tools to help communities to create an environment which fosters the retention, expansion and attraction of enterprises.

The provincial government's approach to community economic development recognizes the unique characteristics of each community in the province. In the same spirit, the policy does not specify the elements of a diversified economic base which should be common to every community across the province. Economic development policies should be based on the community's overall development strategy, where one exists, and should be generated in consultation with a broad cross section of stakeholders and potentially affected parties.

Each community possesses distinct advantages and obstacles to sustainable economic development. These advantages provide opportunities for the community to develop or maintain an economic base which supports the quality of life in the community. Examples of factors which may contribute to a community's advantages may include:

- a mix of building types and ages;
- infrastructure, including transportation linkages, and adequate facilities for waste disposal;
- housing for workers;
- natural resources such as an agricultural land base, or mineral and petroleum resources;
- an historic downtown, distinctive cultural landscapes, or waterfront;
- potential for spin-off activities;
- tertiary industries;
- geographic setting or attributes;
- location or accessibility to major markets; or

- the specific skills, talents and entrepreneurial spirit of its residents and work force.

Building on advantages also involves targeting high priority activities based on compatibility with community attributes and their short term prospects for healthy growth.

Over time, the economic character of a community may change in response to a variety of international, national, provincial and local forces. In these circumstances, a diversified economy with a good mix of activity is more likely to be healthy and stable. In a community characterized by such an economy, a downturn in some activities can be offset by growth in others. A good mix of activity is important in enabling the community to respond to cyclical and long term structural changes in the economy so that the effects of a decline in some activities are minimized.

It is recognized that some communities are dependent upon a single industry, and that that situation may continue. In some communities, concentrated efforts will be required to maintain existing levels of employment, or to reduce losses. In such areas, planning to support a healthy economy may involve planning to keep current economic activity from further decline.

The intent is to improve economic circumstances and enhance the quality of life in the area. However, the policy does not promote growth at all costs or growth which is not consistent with other applicable policies. Nor does it promote growth which would require the extension of expensive infrastructure or exceed the financial ability of the community.

Related to a mix of economic activity is a diversified job market with a good range of employment opportunities, including: full and part time; entry level and highly skilled; employed or self-employed; home-based or housed in more traditional locations. A diversified job market provides for a broadly-skilled workforce responsive to the economic changes the community encounters.

Planning has the potential to encourage or hinder economic development in the province. Municipalities and approval authorities should create a planning environment which facilitates appropriate economic development, and permits faster consideration of good development proposals, to take best advantages of potential opportunities for economic growth.

A supply of appropriate land should be available to meet projected economic opportunities. Appropriateness can be evaluated in terms of factors such as location, size, suitability for proposed uses and infrastructure capacity. Communities should be equipped to respond to demand and generate new demand. This doesn't mean that all development should be approved - it means that the right development should be promoted.

It is important to remember that the health of a community depends upon a balance between economic, social and environmental factors. Factors such as the cost and availability of different types of housing, the quality and range of education, recreational and cultural amenities, safety, health care facilities, general attractiveness, and community investment in infrastructure are increasingly important location criteria for business and industry. As a result, the level of economic activity should not exceed the capacity of a community's natural environment and social

and human services to support the activity on an ongoing basis. The community's natural environment should be regarded as one factor which determines the sustainability of economic activity. Taking social and environmental factors into account is good business.

A healthy community is one where economic, social and environmental factors are in balance. To achieve long term sustainability, economic objectives should be integrated with social and environmental objectives. Decisions regarding site selection are often driven by factors which don't relate directly to the business activity. Since the labour force is one of the most important assets a company has, it is important for workers to be happy. For this reason, quality of life considerations are just as important as factors such as taxes and energy costs in decisions regarding business location.

For example, a high technology industry may choose one community over another because of considerations such as quality of air and water, scenic attributes, or cultural or educational opportunities. Similarly, since the tourism industry depends on healthy and safe communities and a high quality environment for the quality of its product and its continued viability, the approval of development which would erode the quality of the environment would weaken a community's natural advantages for tourism.

2.2

Possible Implementation Approaches

Many experts have stated that the "new economy" is affected by many factors over which the province and municipalities have little control. Downturns in some sectors may represent the permanent result of globalization of markets and economic restructuring, not just historic cyclical patterns. However, there are some things which a community can do to promote economic development through the planning process.

Successful municipalities have developed long term strategies which provide sufficient support for economic development - strategies which focus not just on the industrial and manufacturing sector but on a broader definition of economic activity, and that address the broad range of factors which influence the economic health of a community.

Policy B4 encourages communities to develop economic development strategies as one way of planning for economic development. This is not a requirement - this kind of information could also be developed as part of the background studies supporting the development of an official plan. No matter what tool is selected, early and ongoing consultation with a broad cross section of groups with an interest in the community is recommended.

The process of preparing such a strategy or background report may involve three activities:

Look at Advantages and Constraints to Economic Growth

This step involves assessing advantages and constraints to economic activity. It may involve the activities such as:

- forecasting changes in the community's economic base;
- identifying the limitations of environmental carrying capacity, including constraints posed by water, land and air resource use;
- determining whether the capacity of existing infrastructure and transportation facilities will increase or decrease competitive advantage;
- looking at linkages with housing needs studies and social and human services plans to make sure that opportunities for housing and other social and human services will be available for workers;
- evaluating the needs of existing business for ongoing prosperity; and
- identifying economic activities with the potential for job creation/retention; and determining whether skills are available in the community to support those activities.

Determine Long Term Objectives for the Community's Future

Long term objectives for economic prosperity in the community should be developed, with the involvement of all stakeholders. (This could be coordinated with adjacent municipalities in the same economic region). Once these long term objectives have been developed, the development of a strategy is recommended. The strategy may address issues such as the following:

- forecasted changes in the community's economic base;
- respecting the limitations of environmental carrying capacity, including constraints posed by water, land and air resource use;
- upgrading and/or making best use of existing infrastructure and transportation facilities to increase competitive advantage;
- ensuring that housing and other social and human service are available for workers;
- finding ways of retaining existing large and small businesses and helping them grow;
- providing for innovative approaches to new business development; and
- encouraging the development of an appropriate skills base through appropriate education and training. For example, an emphasis could be placed on training to encourage skill-based economic activity.

Develop an Action Plan to Get There

Once the strategy has been developed, there are many types of activities which can be undertaken to implement it. A specific plan of action should be developed to implement the strategy.

These activities may or may not relate to land use planning. For example, this step may involve developing contingency plans to address projected changes in the economic base, or setting up a training course with a local community college.

Initiatives which relate to land use planning should be addressed in the official plan and zoning by-law and reflected in decisions on development applications. These initiatives would be supported by streamlining initiatives so that better decisions are made faster.

More information on the linkages between planning decisions and the strategy is included below.

Monitoring

The strategy and action plan should be reviewed and updated periodically to enable municipalities to respond to changing conditions.

How Official Plans and Zoning By-laws Support Economic Development

The exact provisions in the official plan and zoning by-law regarding economic development will vary depending on the community's strategy and action plan. The common feature is that official plan and zoning by-law provisions commonly address land use-related components of a community's economic development strategy. An economic strategy could provide input into several aspects of the official plan preparation process.

Early and ongoing discussions with the business community and other stakeholders will assist communities in preparing official plans and zoning by-laws that create the right environment for sustainable economic development.

For example, if the strategy encourages the creation of new small business, the attraction of new business and the growth of existing small business, the following actions may be helpful:

Policies and Designations

Sometimes outdated policies and designations may be an unintended obstacle to sustainable economic activity. Council or planning board may wish to undertake regular reviews of existing designations and policies in the official plan and zoning by-law to see if they reflect the strategy, and to see whether the amount and location of land designated for economic activity is appropriate. (The Projection Methodology Guideline provides useful information regarding calculating land requirements.)

They may also review provisions regarding home occupations to remove unnecessary restrictions. For example, provisions precluding non-residents from working on site may not be necessary in all neighbourhoods. A community may decide which types of home businesses

would be compatible with residential uses, and what conditions should be applied to control uses.

To protect existing viable operations, and their ability to expand or change, council or planning board may include provisions to protect sites from incompatible land uses which would hinder expansion.

Official plan policies and designations, as well as zone standards, should be reviewed to determine whether they provide flexibility to meet future needs.

Determine What Can be Done to Promote Long Term Objectives

This may involve:

- reviewing the amount and location of designated and zoned land in the context of projected demand, and including policies to permit targeted activities and to introduce appropriate flexibility. The designations could provide a range of available sites to accommodate all projected or targeted types of activity. For example, a rural settlement could be targeted as a rural service centre to support agricultural activity in adjacent agricultural areas;
- planning for infrastructure to support projected/desired activity. This may involve planning to ensure that sewage and water treatment plant capacity will not limit economic development. However, it may also entail promoting high-technology home industry by providing for advanced infrastructure such as fibre optics, and facilities for video-conferences in selected subdivisions;
- providing for start up sites or shared office services, and encouraging the redevelopment of surplus large non-residential buildings for industrial - commercial condominiums (linked to strategy);
- linking economic activity and residential development to develop an appropriate residential/non-residential mix, and to discourage the creation of bedroom communities;
- identifying potentially contaminated sites and developing strategies to bring the lands back into productive use; and
- providing for intensification of existing industrial and commercial areas. Policies may permit the use of unused space in existing industrial and commercial buildings for small business or incubator commercial or industrial activity. Similarly, increasing lot coverage limits and reducing yard setback requirements may promote increased densities.

Monitor

The policies and designations of the official plan and zoning by-law should be reviewed periodically to ensure that they continue to reflect the community's vision.

Other Important Initiatives

There are many other actions communities can take to promote sustainable economic development through land use planning. These include:

- the review of internal administrative procedures to streamline the approval process while still permitting a thorough review of application and public participation. It is not suggested that appropriate review not occur, but that the best decision be made in the shortest possible time;
- planning so that lack of infrastructure will not be a constraint to appropriate development;
- promoting the renovation and conversion of existing sites;
- a greater emphasis on planning to promote sustainable economic development rather than just reacting to development proposals;
- helping to find alternative sites for relocating industries that have outgrown their sites, or which are incompatible with surrounding uses; and
- financial planning for the consideration of long term growth decisions.

TABLE OF CONTENTS

1	Introduction	1
2	Policy Explanation and Implementation Approaches	1
2.1	<i>Policy Explanation</i>	<i>2</i>
2.1.1	<i>Efficient Use of Land</i>	<i>2</i>
2.1.2	<i>Infrastructure</i>	<i>4</i>
2.1.3	<i>Public Service Facilities</i>	<i>4</i>
2.1.4	<i>Transit.....</i>	<i>5</i>
2.2	<i>Possible Implementation Approaches</i>	<i>6</i>
2.2.1	<i>Efficient Use of Land</i>	<i>6</i>
2.2.2	<i>Infrastructure</i>	<i>7</i>
2.2.3	<i>Public Service Facilities</i>	<i>7</i>
2.2.4	<i>Transit.....</i>	<i>8</i>
2.2.5	<i>Transit Capital Cost Subsidies</i>	<i>11</i>
2.2.6	<i>Transit Operating Cost Subsidies</i>	<i>11</i>
2.2.7	<i>Official Plans</i>	<i>12</i>
2.2.8	<i>Zoning</i>	<i>13</i>
2.2.9	<i>Site Plans</i>	<i>14</i>
 Appendix		
A	<i>Glossary</i>	<i>15</i>

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Efficient Use of Land, Infrastructure, Public Facilities and Transit

Implementation Guideline for **Policy B5**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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1

INTRODUCTION

This guideline is intended to assist municipalities, developers and others in interpreting policy B5 of the Comprehensive Set of Policy Statements, and to help them make decisions that are consistent with it.

The objective of this guideline is to suggest possible forms of planning that promote the efficient use of infrastructure, public service facilities, and transit. This planned form of development should have a compact nature, be built at higher densities, incorporate a wide mix of uses, and increase the use of both existing and future transit systems.

2

POLICY

Explanation and Implementation Approaches

Policy B5 states that:

"Communities will be planned to use land efficiently, promote the efficient use of *infrastructure* and *public service facilities*, and where transit exists or may be introduced in the future, support the use of transit."

2.1

Policy Explanation

The general intent of the policy statement is to promote a less dispersed and more compact form of development that is less expensive to service, takes advantage of public money already spent on infrastructure, and supports the use of transit.

2.1.1

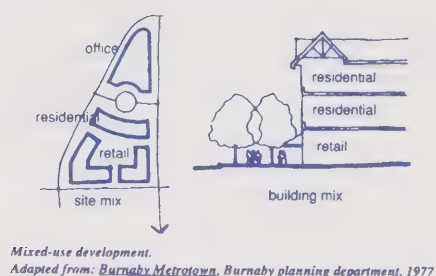
Efficient Use of Land

Promoting the efficient use of land can be accomplished by focusing on the principles of higher density, compact development, and mixed-use development. The need to pursue the efficient use of land will vary throughout the province based on current local development pressures.

The first of the three principles is efficient density, which implies an adequate concentration of persons or employment per unit of land. Efficient density does not necessarily mean the development of highrise buildings, but allows for the implementation of a variety of building types with a complete range of lot sizes such as low-rise apartment buildings, townhouses, gardenhomes, accessory apartments, and detached and semi-detached dwellings. Ideally, by creating a more intensely developed area, more people will have improved access to activities in the area, thereby increasing utilization of local services.

The second principle is compact development, which involves regulating outward growth and creating a tighter, more closely knit pattern of land use that can reduce the amount of land required for future development. Also, compact development may benefit the environment by providing greater protection for agricultural land and natural heritage features, and minimizing scattered development. In promoting compact development, municipalities need to ensure that the land base has the ability to support development and the necessary services while minimizing impacts on the environment. Refer to the implementation guideline for policies B8-B11 for more specific information on growth and settlement of communities.

The last of the three principles is mixed-use development, which involves the provision of a variety of commercial, retail, residential, industrial, institutional and cultural uses in a given area. Mixed-use development may occur at the level of individual buildings (retail and professional offices) or at a larger scale within public corridors, such as streets, and activity areas such as business districts. A greater number of uses in defined areas may serve to increase transit use, and allow people to accomplish several things in one trip. (See Figure 1: Mixed-use development).

Figure 1

The efficient use of land when developing greenfield sites will ensure urban sprawl is reduced, and new development will provide for all modes of transportation. In order to help achieve efficient use of land, infrastructure (including transit), and public service facilities must be able to adequately service new development areas. In developing greenfield areas, the efficient use of land can be achieved by following the *Making Choices: Alternative Development Standards Guidelines*. For more information see the implementation guidelines for policies B8-B11.

In some areas of the province where growth and development are in a decline, there is still a need to recognize the principles of efficient use of land. These principles will enable a municipality to make better use of their resources, by maximizing the use of existing infrastructure and public service facilities.

In many existing built-up areas there are opportunities to increase the efficient use of land by intensifying developments. Intensification allows more effective use to be made of existing resources (e.g., land, infrastructure, public service facilities) by increasing the population/employment density of existing built-up areas.

While intensification should be encouraged as a way of making better use of existing resources, and making the provision of new infrastructure and public service facilities more cost-effective, intensification should be carefully implemented so as not to fully exhaust existing facilities.

Intensification can occur by either redevelopment or small-scale intensification. Redevelopment entails the removal of existing buildings or land uses and the creation of new structures at a higher density than was previously found in the area. Small-scale intensification means residential intensification which adds dwelling units without redevelopment and includes infill; rooming, boarding, and lodging houses; and apartments in houses. For more information on small-scale intensification refer to the implementation guideline for policy C4.

2.1.2

Infrastructure

Infrastructure means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit, and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Infrastructure exists in every community at some level. Ideally, the combination of the three principles of efficient use of land will improve on the maximization of existing infrastructure. By doing so, the demand for future infrastructure construction may be reduced or made more cost-effective. Also, promoting the efficient use of land will be beneficial to the environment, and help to protect and conserve agricultural lands, heritage sites, and wetlands. Efficient use of infrastructure may involve the sharing of rights-of-way (e.g., communication and hydro) which can decrease the amount of land required for development. This will afford economic benefits to municipalities by reducing the cost of construction and maintenance of infrastructure. Refer to policy B7 and B16 for more information on the provision of infrastructure.

2.1.3

Public Service Facilities

Public service facilities are buildings and structures for the provision of public services, but does not include infrastructure. Examples of these facilities might include learning institutions, community centres, libraries, police and fire stations, and health care and social service centres. Such facilities are an integral part of a community.

It is important to consider the location of public service facilities in newly planned communities, in extensions to older communities, and in the redevelopment of existing communities. Services that might act as significant trip generators, such as schools, community centres, hospitals, and senior homes should be located to maximize their efficiency. Similarly, new development may be planned to maximize existing public service facilities while recognizing their capacity. This would ensure greater accessibility and usage of these facilities. As well, services may be designed to be highly visible or to create focal points in the communities they serve.

In planning for the efficient use of existing public service facilities, it is important that there be some understanding of the status of these facilities, and that consultation with the service providers be undertaken (e.g., school board, library or social services board, health care administrators).

As stated previously, mixed-use development may occur at the level of individual buildings or at a larger scale within public corridors and activity areas. Many public service facilities may share

or be integrated into a single building or site to provide improved accessibility, cost reduction, and the efficient use of land.

Refer to policy statement B1 for more information on public service facilities.

2.1.4

Transit

With respect to transit, higher densities and compact development are integral to creating a transit supportive land use pattern. Elements that are commonly found in many built-up areas, such as scattered development patterns, are very difficult to service with transit. As development grows more compact and densities increase, the number of potential passengers per route kilometer increases, helping to generate more riders and higher revenues. As revenues increase, it will become more economically feasible to increase the frequency of service. There is a direct relationship between frequency of service and the level of transit use. Improved frequency and convenience of service will have positive impacts on transit ridership. This can improve revenue/cost ratios and lead to even higher levels of service.

The principle of mixed uses also plays an important role in promoting the efficient use of transit. Users may regard transit as an attractive and convenient alternative if they live or work near a route that provides frequent service. From a transit perspective this may encourage transit usage and establish a day-long, balanced ridership pattern by capturing more short, non-work related trips.

The concept of activity nodes and corridors incorporates the previously mentioned principles of compact development or higher density, and mixed uses. The aim is to create an urban structure which supports transit by concentrating higher densities and mixed uses along transit corridors and at major intersections. This allows those land uses most likely to be supportive of transit to be located closer to transit service, while allowing lower density areas to be located farther away from transit service. This will make it more convenient to use transit, since one transit trip can serve several purposes. Higher residential and employment uses within nodes will place larger numbers of potential users adjacent to well-developed transit services, which will add to the likelihood that these individuals will use transit. Locating medium density development, such as activity corridors, adjacent to transit routes, will ensure that a large number of residents, workers and shoppers have direct access to transit services.

It is important to realize that planning for conventional transit services is not feasible in all areas of the province at this time. In rural and small municipalities, fixed-route service may not be practical due to insufficient ridership levels. However, transit-supportive land use planning principles may be adapted to communities without an existing transit system. A major part of transit-supportive land use planning is designing for the pedestrian trips which occur at both ends of a transit journey. Small towns and municipalities that are currently automobile-oriented may

adopt pedestrian-friendly planning policies so that transit may be more easily and efficiently supported if introduced in the future.

Paratransit is an alternative type of service which may be applied to both urban and rural areas where transit service for specific user groups is deemed necessary. Service may need to be customized and concentrated on serving people with special needs. Also, paratransit may be utilized by communities which display a need for some type of transit system, but cannot justify a conventional transit operation (full-sized buses running on fixed routes and schedules). Paratransit is more flexible, and can easily be adapted to meet the needs of specific user groups (e.g., persons with disabilities, seniors with special needs) and smaller vehicles could be supported by areas with a smaller population. As a community grows, it can incrementally increase services to the point where conventional service is feasible.

2.2

Possible Implementation Approaches

It is important to note the province is a very diverse area with different planning needs and not all of the possible implementation approaches will have the same degree of relevance to each area. Some of the content in this guideline deals with transit, which is often seen as an urban area issue. Parts of the implementation approaches may have greater significance to built-up areas. However, non built-up or rural areas can still benefit by planning for efficient land use; it can be particularly relevant in order to provide for future expansions.

2.2.1

Efficient Use of Land

- Municipalities are encouraged to promote the efficient use of all land by focusing on the principles of higher density, compact development, and mixed-use development. Possible approaches may include:
 - The implementation of a variety of lot sizes and building types in new developments and redevelopment lots to create a more densely developed area;
 - Promoting compact development which may reduce the amount of land required for future development and provide protection for valuable agricultural land and natural heritage features;
 - Providing mixed uses in defined areas, especially in activity nodes or corridors, to improve accessibility, convenience, and the use of transit.

- ▶ Encouraging intensification of development in existing built-up areas will serve to increase the efficient use of land and other resources by increasing the population density in areas where lower density development is prevalent.
- ▶ Creating a comprehensive approach to intensification to ensure that redevelopment and small-scale intensification occur in an appropriate manner across the municipality, and not as isolated incidents.

For further information on the efficient use of land, please also refer to the publication *Making Choices: Alternative Development Standards Guideline*.

2.2.2

Infrastructure

- Municipalities are encouraged to promote the efficient use of infrastructure. This may be achieved by:
 - ▶ Considering shared right-of-ways for hydro, communications, roadways, and sewage and water services as may decrease the amount of land required for development purposes;
 - ▶ Encouraging appropriate densities which may increase the number of individuals utilizing existing infrastructure;
 - ▶ Encouraging compact development which may reduce land consumption and the cost of construction and maintenance of infrastructure.

A further discussion on sewage and water services may be found in the implementation guideline for policies B7 and B16.

2.2.3

Public Service Facilities

- Municipalities are encouraged to promote the efficient use of public service facilities. Possible considerations include:
 - ▶ Promoting more compact development and the more efficient provision of services, wherever possible, and exploring different ways that public facilities might be combined to share facilities and services;
 - ▶ Public service facilities (e.g., seniors homes, schools, child care and community centres), which might act as significant trip generators, may be conveniently

located to maximize their levels of service and usage for a greater number of individuals;

- ▶ Recognizing that the use and location of facilities must appropriately reflect the demand within the community;
- ▶ Preferably locating learning institutions adjacent to parks, libraries, community centres or other educational facilities and, where possible to complement the other public facilities being provided in order to provide a co-ordinated service and to avoid duplication of service;
- Ensuring that development is not surpassing capacity of existing public service facilities, and that new facilities are carefully planned for and integrated into new development.

2.2.4

Transit

- Municipalities should plan for transit and transit supportive land uses. Where appropriate, possible approaches may include:
 - Consulting with transit operators to determine adequate densities for employment and residential land use categories necessary to support transit;
 - ▶ Locating higher density development adjacent to transit routes, highest densities adjacent to where two or more transit routes intersect, and lowest densities away from transit routes;
 - ▶ Providing adequate spacing of arterial and collector roads to accommodate the needs of transit operators (1 km apart maximum is recommended);
 - ▶ Locating a significant majority of residences, jobs and other activities/uses within 400m or less walking distance from a transit stop;
 - ▶ Zoning areas adjacent to transit routes in a mixed-use category which will permit higher density, compact residential, commercial, retail, public service facilities and employment uses;
 - ▶ Designing collector and arterial roads to be as continuous and direct as possible;
 - ▶ Establishing local road patterns that provide direct pedestrian access to transit stops and transfer nodes;

-
- ▶ Orienting buildings to the street and to transit services (to minimize walking distances), therefore creating a safer and more interesting street environment;
 - ▶ Incorporating transit waiting areas into the design of major buildings located adjacent to transit stops;
 - ▶ Minimizing parking in areas well serviced by transit;
 - ▶ Avoiding reverse lotting along existing or future transit routes and encouraging higher density, street-oriented uses along both sides of collectors and arterials;
 - ▶ On roadways designed for higher speed through traffic where transit services will not be provided, reverse lotting may be considered.

For a more detailed summary of possible initiatives relating to transit supportive land use planning, please refer to the *Transit Supportive Land Use Planning Guidelines*.

- Municipalities are encouraged to vary development densities at activity nodes according to the size of the activity node, the level of transit service offered, and the size of the area. Potential development densities may include:
 - ▶ 1.5 to 2.0 Floor Space Index (FSI) for activity nodes in small municipalities;
 - ▶ 2.0 to 4.0 FSI for activity nodes served by buses, in larger municipalities;
 - ▶ 3.0 to 5.0 FSI or more for larger activity nodes served by rapid transit and commuter rail, in large urban centres.
- Municipalities may identify minimum residential and development densities required to support various types of transit services. The following table illustrates some accepted standards in North America. It is only an example and may not be applicable to all areas in the province.

Service	Minimum Residential Density Required (Gross Density)
Bus, 1 km route spacing, 1 hr. service	4 units/acre (10 units/hectare) adjacent to route*
Bus, 1 km route spacing, 1/2 hr. service	7 units/acre (17 units/hectare) adjacent to route
Bus, 1 km route spacing, frequent service	15 units/acre (37 units/hectare) adjacent to route
Rapid Transit, 5 min. headways during peak hours	12 units/acre (30 units/hectare) average density over extensive areas with higher densities in central areas and around stations

* adjacent to route = within 400m of route

- There are many ways of defining and looking at densities. While the above table contains gross residential densities in terms of units per area of land, net and gross densities in terms of persons per hectare of land may also be used when studying densities.
- Rural areas are also encouraged to promote effective planning for transit and transit supportive land uses, and in addition to the aforementioned, may consider:
 - Planning at a standard which will more effectively support limited or conventional transit systems when it becomes feasible;
 - Planning for alternative modes such as walking and bicycling may also provide support for transit;
 - Utilizing paratransit vehicles to serve the need for specific users in communities that cannot justify a conventional transit system operation;
 - Avoiding scattered development by concentrating development in settlement areas so transit may be provided more effectively;

- ▶ Examining the possibility of using excess capacity in other transportation resources, like paratransit and school buses, to provide a higher level of community mobility.

2.2.5

Transit Capital Cost Subsidies

The province currently subsidizes capital costs at a rate of 75%. Eligible items for capital cost subsidy include new transit vehicles, transit facilities, rapid transit construction, and other transit related infrastructure.

Capital costs for specialized transit services are subsidized at a rate of 50%.

2.2.6

Transit Operating Cost Subsidies

- The following table illustrates current Ministry of Transportation Operating Cost Subsidies:

Population	- A - Fare Box Revenue to Cost Target (%)	- B - Net Cost ($B = 100 - A$) (%)	- C - Provincial Subsidy Rate ($C = 50\% \text{ of } B$) (%)
Less than 100,000	50	50	25.0
100,000 - 150,000	55	45	22.5
150,000 - 200,000	60	40	20.0
200,000 - 1,000,000	65	35	17.5
Over 1,000,000	68	32	16.0

- New rapid transit facilities may be eligible for special operating cost subsidies during the first few years of operation.
- Areas experiencing rapid growth of over 4% per year can obtain an additional subsidy of 1.5% of the annual operating cost for each 1% of population growth over 4%.
- Specialized transit services for persons with disabilities are subsidized at an operating rate of 25%, plus \$3.50 (1993) per passenger trip.
- Demonstration projects intended to increase efficiency and effectiveness of transit services may be subsidized at a rate of 100%.

For additional information on available public transit subsidies, readers are advised to contact the Public Transportation Office of the Ministry of Transportation.

2.2.7

Official Plans

- Municipalities are encouraged to establish goals and objectives and include general policy statements on the following:
 - Maximizing the use of existing and future infrastructure and public service facilities;
 - Identifying the types of partnership to be considered when developing or redeveloping infrastructure and public service facilities;
 - Identifying the municipality's rationale for and commitment to incorporating transit and transit user needs into the planning process;
 - Including a general statement about the role that transit is seen to play in the community;
 - Over the long term, developing and promoting a reasonable balance between the population and employment base. This would likely reduce the number of trips across municipal boundaries and encourage shorter trips, thereby decreasing traffic demand;
 - Providing local transit service and linking areas together with a regional rapid transit system. Where feasible, municipalities should also pursue the possibility of establishing inter-regional transit links. This system could take several forms including commuter rail, rail rapid transit, or express bus services;

- ▶ Designating one or more activity nodes in official plans and secondary plans, at points where bus routes intersect, and at commuter rail or rapid transit stations. Locate new transit stations and transit nodes within existing and proposed activity nodes, or at points where intensification could occur in the future;
- ▶ Designating a network of compact, mixed-use centres and corridors;
- ▶ Transit supportive planning in rural areas.

2.2.8

Zoning

- When addressing both urban and rural areas, zoning regulations which could encourage the efficient use of land for infrastructure, public service facilities, and transit supportive developments may include those which:
 - ▶ Avoid large areas zoned for a single use and density; generally, allow a greater mix of uses (where appropriate) within each zone;
 - ▶ Reduce minimum lot sizes, and reduce lot frontage requirements, to increase development densities;
 - ▶ Where appropriate, reduce or eliminate required setbacks for commercial buildings and employment centres located along arterials, and consider locating parking facilities in side or rear yards for most land use categories;
 - ▶ Permit a wide range of residential, commercial, retail, entertainment, community facility, recreational, and light industrial uses in activity areas and along public corridors;
 - ▶ Increase maximum or establish minimum gross floor area (GFA) and floor space index (FSI) standards along arterials, and at activity nodes, while ensuring increases can be supported by existing capacities and policies.

2.2.9

Site Plans

- Site plan review is an important tool in transit-supportive land use planning. The following transit-related issues may be considered when reviewing site plans for properties located along transit routes:
 - ▶ Provide direct pedestrian access to the building from the street;
 - ▶ Locate buildings as close as possible to the streetline;
 - ▶ Locate parking areas in rear and side yards, not in the front yard, where feasible;
 - ▶ Where buildings are set back from the street, pedestrian walkways may provide a direct route between sidewalks and building entrances, and avoid grade changes and stairs if possible;
 - ▶ Provide amenities such as canopies or arcades along walkways and public sidewalks and/or shade trees and other landscape elements along the street frontages to improve pedestrian comfort.

For more detail on how the general principles of a compact form of development, higher densities, and a greater mix of land uses might be achieved, refer to the implementation guideline for C5, *Transit Supportive Land Use Planning Guidelines*, and *Making Choices: Alternative Development Standards Guideline*.

Appendix

Glossary

This glossary has been added to the implementation guidelines for policies B5, B6 and E2. The following terms are not included as part of the policy statements, and definitions are therefore provided here. They have been taken from the Transit Supportive Land Use Planning Guideline:

Activity Corridors:

Areas of street-oriented uses which incorporate a mix of retail, employment and residential uses, developed at medium densities, located along arterial or collector roads serving as major transit routes. Such corridors may form the boundaries of residential subdivisions or neighborhoods, but should act as a linear focus for activities and uses within the community.

Activity Nodes:

Compact, transit-oriented, pedestrian-friendly areas where the highest concentrations of residential, employment, retail and other uses in the urban area are located. Activity nodes are generally located at points where two or more transit routes or travel modes intersect.

Floor Space Index (FSI):

The ratio of the gross floor area of a building or buildings to the gross area of the lot on which the building or buildings are located. A floor space index (FSI) of 2.0 would indicate that the gross floor area of a building could be up to 2 times the gross area of the lot on which it is located.

Mixed-Use Development :

Areas characterized by a wide variety of shopping, employment, entertainment, light industrial and residential uses. Mixed-use development may occur at the level of individual buildings or complexes, or at a larger scale within activity nodes or corridors.

Net Density:

The number of residential units occupying a given area of land used specifically for residential purposes (i.e., excluding land used for parks, commercial uses, etc.)

Paratransit:

A general name for a form of public transportation service offering a more flexible and personalized service than conventional, fixed route transit. Includes demand

responsive transit systems such as dial-a-bus and shared-ride taxi.

Pedestrian:

Refers to all people on foot or moving at walking speed, including those who use mobility aids (wheelchairs, scooters etc.), persons with strollers and buggies, and frail elderly persons.

Reverse Lotting:

Lots located adjacent to an arterial or collector road which front onto an internal street, while the rear yard faces onto the arterial or collector road. Landscaping and privacy fences are usually located adjacent to the arterial or collector road, and access onto the arterial or collector is strictly limited.

Roads, Arterial:

Major traffic and transit routes, intended to carry large volumes of vehicular traffic. Arterial roads should provide continuous routes across urban areas, and in urban areas, should generally be designed as “Activity Corridors” according to Guidelines 2.3.2, 3.5.1 and 3.5.2.

Roads, Collector:

Traffic and transit routes designed to carry lower volumes of traffic than arterial roads, and providing continuous access across neighborhoods. Collector roads should be bordered by higher density uses than surrounding low density residential areas, to support their role as transit routes.

Transit:

Includes public buses, streetcars, subways, and commuter rail lines. In this document transit also encompasses public trains; ferries; buses (including intercity buses) operated by private companies and available to the public; Board of Education transportation systems; private company/institutional vans made available to employees, customers, or residents; taxis; and related pedestrian activities, as well as specialized transit services.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Efficient Transportation Systems

Implementation Guideline for Policy B6

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
2	Policy Explanation and Implementation	1
2.1	<i>Policy Explanation</i>	<i>2</i>
2.1.1	<i>Maximizing the Efficiency of Transportation Systems</i>	<i>2</i>
2.1.2	<i>Integration of Modes</i>	<i>2</i>
2.1.3	<i>Optimal Use</i>	<i>3</i>
2.1.4	<i>Coordination</i>	<i>3</i>
2.1.5	<i>Transit</i>	<i>4</i>
2.1.6	<i>Roads</i>	<i>4</i>
2.1.7	<i>Goods Movement</i>	<i>5</i>
2.2	<i>Possible Implementation Approaches</i>	<i>6</i>
2.3	<i>Other Considerations</i>	<i>7</i>
 Appendix		
A	<i>Glossary</i>	<i>10</i>

1

INTRODUCTION

Integrated and efficient transportation systems contribute to the vitality of the economy, the integrity of the environment, and the livability of communities in which transportation needs of all residents are served.

The objective of the guideline is to suggest methods to improve the current transportation systems regarding issues such as: access to service, connections between services, conflict between systems and modes (goods movement versus auto versus transit/pedestrian/bicycle) and sub-optimal use of facilities. This may be achieved by integrating the various elements of the transportation system and optimizing their use.

This guideline is intended to assist municipalities, developers and others in interpreting policy B6 of the Comprehensive Set of Policy Statements, and to help them make decisions that are consistent with it.

2

POLICY

Explanation and Implementation Approaches

Policy B6 states:

"The efficiency of *transportation systems* will be maximized by integrating transportation modes, and making optimal use of existing and new *transportation systems*. Transportation plans should be coordinated with those of other relevant jurisdictions."

2.1

Policy Explanation

The policy calls for maximizing the efficiency of transportation both in terms of efficient performance and efficient use. Transportation systems include: public corridors, transit systems, roads, pathways, and other facilities for the movement of people or goods. Modes of transportation in these systems may include automobile, bus, train, truck, aircraft, bicycle, wheel chair or foot.

Maximizing the efficiency of these systems can be accomplished by integrating various transportation modes, coordinating relevant jurisdictions, and making optimal use of existing and new transportation systems.

Such measures will encourage more people to choose modes other than the automobile, at least for a part of their trip. This will also lead to better utilization of the transportation system by accommodating more trips.

2.1.1

Maximizing the Efficiency of Transportation Systems

There are many reasons why it is important to increase the efficiency of transportation systems.

Transportation systems are expensive to build and maintain. Therefore, obtaining the greatest value out of both existing and new systems makes economic sense. In many cases, particularly in urban areas, the option of building more roads is often not available, due to the lack of suitable corridors, high cost of construction or unacceptable environmental or social impacts. Therefore, the maximizing of existing facilities is among the best way to meet the demand.

2.1.2

Integration of Modes

Improving integration is important when addressing the efficiency of transportation systems and how they may interconnect with each other to improve transportation across the province. Integration of systems could aid in delivering a cost efficient system to support the movement of goods and services and people.

A well integrated transportation system makes walking, bicycling, car pooling, and public transit more attractive, thus reducing auto usage and the associated environmental impact. It also provides for a more efficient transfer of goods and services between long distance shipping on all modes and local deliveries. Ideally, bicycles and pedestrian pathways are integral links in the system and should be linked with local transit lines which may in turn provide a direct link with regional, intercity, and national transportation.

2.1.3

Optimal Use

Making optimal use of new and existing transportation systems can be accomplished in several ways. The first is altering demand on transportation systems, by distributing it over many modes. This can be accomplished by extending the capacity of a system or its components, by encouraging the use of the most efficient mode for each purpose, and by reducing both the demand and need for travel. For example, improvements to a public transit system can increase ridership, and at the same time draw private vehicles from congested roadways. Proper planning and usage of any given mode may help in reducing demand for alternate, often less efficient modes of travel.

Second, when demand is altered, priority should be given to encouraging energy efficient modes of travel.

Finally, Transportation Demand Management (TDM) strategies can be utilized. TDM involves a series of measures such as parking management, road pricing, vehicle restrictions, telecommuting, flextime, and pedestrian and cycling enhancements which help to reduce auto usage during peak periods. Advanced traffic management systems such as Freeway Traffic Management Systems (FTMS) and Automated Vehicle Identification (AVI) may allow traffic to move more smoothly and reduce delays due to incidents.

In reference to telecommuting, modern technology is allowing more employees to establish offices in the home. Instead of working in the typical downtown office, an employee will telecommute. This approach allows workers the use of a computer and communication device to conveniently work from home. The concept of flexible hours offer employees a varying work schedule. In an attempt to accommodate the employee, arrival and departure times to and from the office may change. In essence, telecommuting and flextime may serve to balance traffic flows throughout the day.

Other forms of TDM that attempt to maximize the use of transportation systems include the use of High Occupancy Vehicle (HOV) lanes along with appropriate support programs that allow more people to travel on a given lane. For further details refer to section 2.3, Other Considerations.

2.1.4

Coordination

It is important to consider coordinating transportation systems early in the planning stage. This may involve establishing a transportation plan or conducting Community Transportation Reviews that integrate and coordinate municipal transportation systems and land use with other municipal, provincial, and national systems. Municipalities should work closely with local agencies, and where appropriate, with other municipalities and their local agencies, to explore the coordination

of all transportation resources operating within, adjacent to, or across their municipal boundaries. Types of transportation planning include: planning of infrastructures and facilities (corridors, roads, tracks, etc.), planning of operations (routes, schedules, transfers) and TDM measures (parking policies and HOV lanes). Transportation resources/systems include public transit (conventional and specialized), non-emergency health vehicles, school buses and vehicles operated by social services agencies.

2.1.5

Transit

Public transportation systems include those approved by municipalities, other levels of government and private agencies, including passenger rail and inter-city buses. A transportation system is well integrated when the various elements and modes of the system are designed and operated to provide a seamless service to the user. Public transit systems operated by neighbouring municipalities could provide better service to people using both systems by providing integrated fare structures and collection methods. Park and ride facilities could be provided at terminal points of transit routes to intercept automobiles before they enter busy urban areas. As well, roads and public transit ought to be made bicycle and pedestrian-friendly. Refer also to the implementation guideline for policy B2 and E2 for more information on efficient modes of transportation.

Coordinating the services of neighbouring transit systems with each other helps achieve better integration and a "seamless" service. By coordinating services, transit trips across municipal boundaries are made faster, and easier. This will improve the competitiveness of transit services versus the automobile, and improve mobility for those dependent on transit service. Coordination strategies may include joint scheduling of services, reducing route duplications, and providing transit users with information on different transit systems from a single source.

The optimal use of transit systems increases the cost-effectiveness of transit service. To obtain optimal use, municipalities may promote balanced travel patterns by planning for employment and residential uses. This could serve as a catalyst to encourage commuting in both directions throughout the day. The use of activity nodes and corridors may also serve to optimize the use of transit systems by focusing on employment areas across the municipality. See the implementation guidelines for policy B5.

2.1.6

Roads

Roads are an integral part of almost every transportation system and serve a variety of modes and purposes: autos, transit vehicles, cyclists, pedestrians, and service vehicles. Roads provide access to development across the province and must therefore be given great consideration when

planning for any mode of transportation.

The optimal use of road infrastructure is necessary to ensure the movement of vehicles in a cost-effective manner and to avoid the need to build expensive new roads, especially in existing built-up areas. Initiatives such as HOV lanes and Transportation Demand Management strategies, which are discussed in sections 2.2 and 2.3 of this guideline, are examples of ways in which optimal use can be made of roads.

Road building is subsidized by the Ministry of Transportation (under the municipal roads program) at various levels, depending on the type of road being constructed and the size or location of municipality. In addition, traffic Operation Studies, Needs Studies, and Transportation Planning studies are also subsidized by the ministry.

2.1.7

Goods Movement

With respect to goods movement, the efficient mobility of freight is vital to economic activity in any municipality, as in the case for industries and businesses that rely on Just In Time delivery. Goods movement may represent a significant proportion of vehicle traffic on local, collector and arterial roads. The impact of goods movement vehicles on the traffic volume is considerably greater since each heavy or long truck is equivalent to several passenger cars in its use of road capacity. Increasing traffic congestion may result in increased truck operating costs due to lower average operating speeds and more frequent delays, speed changes, and stops. It is important to improve the speed and efficiency of goods movement on the road system and alleviate congestion on urban roads. This may be attained by providing advantageous signal timings along established truck routes, and not to unduly restrict truck movements on the arterial road system through unnecessary time restrictions or bans. Also, concentrating land uses and reducing travelling distances is effective in alleviating congestion on urban roads.

In addition, onstreet loading and unloading activities reduce the capability of the transportation network to move people, vehicles and goods. Where possible, it is desirable to relocate such activity to dedicated facilities that are adequate to serve goods movement needs.

Rural and smaller municipalities may need to consider the future needs of goods movement in their area. Implementing these suggestions may prove beneficial in reducing the impact of goods movement on adjacent land uses as development increases, and avoiding impediments to future goods movement. This pertains to infrastructure and design concepts, including turning radii, curb placement, and roadway widths. Furthermore, these suggestions need to be carefully planned so as not to ruin the local street environment, but also to give delivery and service vehicles priority over single occupancy vehicles, as well as proper loading and transfer facilities.

2.2

Possible Implementation Approaches

It is important to note that the province has many diverse areas and not all of the suggestions made here will have the same degree of relevance in all areas. However, the principles of planning for efficient transportation systems and human needs are universal and relevant to both urban and rural areas.

Municipalities are encouraged to consider the following:

- The use of existing transportation systems should be maximized before expanding.
- Maximizing the use of available transportation resources by coordinating public transit and transportation services with other municipalities operating within, adjacent to, or across their municipal boundaries. Transportation resources include public transit (conventional and specialized), non-emergency health vehicles, school buses and vehicles operated by social service agencies. Opportunities for coordination include:
 - Scheduling of inter-municipal transit, such as when a bus arrives and unloads transferring passengers, a connecting bus is timed to provide a convenient connection;
 - Reducing duplication of service (for example, different sectors whose clients have similar transportation needs could consolidate their transportation services and reduce the number of vehicles travelling the same route);
 - Utilizing excess transportation resources, like school buses, as a means of servicing outlying areas which cannot justify full transit services but still require transportation for students and transit dependents;
 - Making better use of excess vehicle capacity (for example, one sector could use vehicles from another sector when they are idle or when they have room for additional passengers);
 - Allowing neighbouring municipal transit services to serve destinations located in other municipalities. For example, a regional shopping centre located near the border of two municipalities could be served by both municipal transit services.
- Promotion of walking, cycling and transit usage by means of official plan policies that consider land use and transportation plans and ensure that development proposals include necessary facilities.
- Providing linkages between all forms of transportation, including public, private and national, regional, and local.

- Recognizing the importance of goods movement and their special needs
 - Need to expand linkages between truck and rail systems.
 - On- and off-street parking and loading facilities.
 - Designated truck routes and lanes.
 - Encouragement of rail and intermodal movements.
 - Avoid rerouting conflicts.
 - Reduce existing and future infrastructure impediments.
 - Develop alternative truck routes to reduce through trips and congestion, and ensure there is an adequate amount of on- and off-street parking spaces for goods movement vehicles.
- Providing commuter parking lots and bicycle parking facilities along transit routes to promote transit and cycling and to reduce auto usage.

2.3

Other Considerations

This section outlines several possible transit priority measures, and market-oriented incentives which could be used by municipalities to improve transit use.

Considerations:

- When protecting right-of-ways for future arterials, consider the eventuality of incorporating transit and High Occupancy Vehicle lanes.
- Modify existing municipal arterial design standards to include HOV provisions.
- Identify streets where transit vehicles are routinely delayed by congestion, and consider applying HOV lanes on these routes.
- Identify intersections where transit vehicles routinely are delayed due to heavy traffic or need to make awkward manoeuvres (e.g., left turns against heavy opposing traffic). Consider providing pre-emption signals for transit vehicles.
- Identify arterial intersections where transit vehicles are routinely delayed, and which are physically amenable to queue-jump lane treatment. Consider adding queue-jump lanes at these intersections.
- Review current restrictions on stopping, turning, or parking (if any) along transit routes, with a view to strengthening them in the interest of improving transit service.

- To provide an incentive for transit use, review parking standards in zoning by-laws in areas well-served by transit. Consider reducing or establishing maximum parking requirements, while reducing or eliminating minimum parking requirements. Develop a system whereby developers can "exchange" parking spaces for transit/pedestrian/cycling amenities.
- In areas well-served by transit, review pricing policies at municipally-owned parking lots to ensure they are not inadvertently encouraging long-term commuter parking and discouraging transit use. Explore taxation and other mechanisms for increasing the cost of parking at private lots.
- A cooperative effort by the transit system operator, council, and municipal departments, could consider implementing monthly passes, fare-by-distance rates, off-peak discounts, and other innovative fare programs.
- Consider establishing a Fare Integration and Service Coordination Committee, including membership from each transit system and municipality in the area, with a mandate to create a seamless transit service.

The following additional considerations may be most appropriate for mid-sized and larger municipalities. The relevancy for smaller municipalities may be examined on a case-by-case basis.

- Municipalities may pursue fare integration and service coordination among their transit systems and those of neighbouring municipalities.
- Municipalities may pursue various Transportation Demand Management (TDM) measures such as parking management, road pricing, vehicle restrictions and pedestrian and cycling enhancements to encourage a mode shift from the automobile to walking, cycling and public transit.
- Municipalities have the option of increasing auto occupancy rates by promoting ride sharing and reserving, where appropriate, certain lanes for High Occupancy Vehicles (HOV) only.
- Municipalities may consider the use of traffic management systems to improve the flow of road traffic.
- Encourage municipalities to promote the greater use of telecommuting and flexible hours for employees, which may contribute to reducing peak period traffic congestion.

This implementation guideline provides a summary of existing provincial guidelines. For a more detailed and comprehensive analysis of transit-supportive design, readers are encouraged to refer to the *Transit Supportive Land Use Planning Guidelines*.

For more information in HOVs, refer to *A Handbook of High Occupancy Vehicle Opportunities, Incentives and Examples for Ontario Municipalities*, (July 1993), and *Operational Design Guidelines for High Occupancy Vehicle Lanes on Arterial Roadways Including Planning Strategies and Supporting Measures*, (September 1994).

Appendix

Glossary

This glossary has been added to the implementation guidelines for policies B5, B6 and E2. The following terms are not included as part of the policy statements, and definitions are therefore included here. For the most part, they have been taken from the *Transit Supportive Land Use Planning Guidelines*:

Activity Corridors:

Areas of street-oriented uses which incorporate a mix of retail, employment and residential uses, developed at medium densities, located along arterial or collector roads serving as major transit routes. Such corridors may form the boundaries of residential subdivisions or neighbourhoods, but should act as a linear focus for activities and uses within the community.

Activity Nodes:

Compact, transit-oriented, pedestrian-friendly areas where the highest concentrations of residential, employment, retail and other uses in the urban area are located. Activity nodes are generally located at points where two or more transit routes or travel modes intersect.

High Occupancy Vehicle (HOV):

High occupancy vehicle (HOV) lanes are special lanes designated for the exclusive or near exclusive use of vehicles which carry three or more occupants (cars, buses, and taxis). HOV lanes may be located in the median or curb lanes of the street, where roadways are sufficiently wide; existing lanes can be designated as HOV lanes on a full time basis, or may be limited to peak travel periods of the day.

Just-in-Time (JIT):

A principal of production and inventory control where the industry relies heavily on the carrier to deliver only the necessary goods in time for production or use. (right product at the right time at the right place)

Mixed-Use Development:

Areas characterized by a wide variety of shopping, employment, entertainment, light industrial and residential uses. Mixed-use development may occur at the level of individual buildings or complexes, or at a larger scale within activity nodes or corridors.

Paratransit:

A general name for a form of public transportation service offering a more flexible and personalized service than conventional, fixed route transit. Includes demand responsive transit systems such as dial-a-bus and shared-ride taxi.

Pedestrian:

Refers to all people on foot or moving at walking speed, including those who use mobility aids (wheelchairs, scooters etc.), persons with strollers and buggies, and frail elderly persons.

Queue-Jump Lanes:

Special lanes which allow transit vehicles to by-pass queues of private vehicles at intersections. Queue-jump lanes are frequently provided as modified right turn lanes, which allow buses to continue through the intersection.

Reverse Lotting:

Lots located adjacent to an arterial or collector road which front onto an internal street, while the rear yard faces onto the arterial or collector road. Landscaping and privacy fences are usually located adjacent to the arterial or collector road, and access onto the arterial or collector is strictly limited.

Roads, Arterial:

Major traffic and transit routes, intended to carry large volumes of vehicular traffic. Arterial roads should provide continuous routes across urban areas, and in urban areas, should generally be designed as "Activity Corridors" according to Guidelines 2.3.2, 3.5.1 and 3.5.2.

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Traffic and transit routes designed to carry lower volumes of traffic than arterial roads, and providing continuous access across neighbourhoods. Collector roads should be bordered by higher density uses than surrounding low density residential areas, to support their role as transit routes.

Transit:

Includes public buses, streetcars, subways, and commuter rail lines. In this document transit also encompasses public trains; ferries; buses (including intercity buses) operated by private companies and available to the public; Board of Education transportation systems; private company/ institutional vans made available to employees, customers, or residents; taxis; and related pedestrian activities, as well as specialized transit services.

Signal Pre-emption System:

A traffic signal control scheme which triggers a traffic signal to turn green in the direction that a transit vehicle is travelling, as the vehicle approaches the intersection.

Transportation Systems:

public corridors, transit systems, roads, pathways, and other facilities for the movement of people or goods. Modes of transportation in these systems may include automobile, bus, train, truck, aircraft, bicycle, wheel chair or foot.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Planning for Sewage and Water Services

Implementation Guideline for **Policy B7**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local Regional Office of the Ministry of Environment and Energy.

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Purpose</i>	<i>1</i>
1.2	<i>Rationale</i>	<i>1</i>
1.3	<i>Objectives</i>	<i>2</i>
2	Policy Explanation and Implementation	3
2.1	<i>Policy Explanation</i>	<i>3</i>
2.1.1	<i>Planning for Servicing and Infrastructure</i>	<i>3</i>
2.1.2	<i>Planning for Sewage and Water Services</i>	<i>4</i>
2.1.3	<i>Hierarchy of Servicing Preferences</i>	<i>6</i>
2.2	<i>Implementation</i>	<i>9</i>
2.2.1	<i>Official Plans</i>	<i>9</i>
2.2.2	<i>Site-Specific Official Plan Amendment/Individual Application Review</i>	<i>9</i>
2.2.3	<i>Site-Specific Official Plan Amendment/Individual Application Review in the Absence of Planning for Sewage and Water Services in Approved Municipal Planning Documents</i>	<i>11</i>
 Appendix		
A	<i>Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants</i>	<i>13</i>
B	<i>Application of Municipal Responsibility for Communal Sewage and Water Services</i>	<i>21</i>
C	<i>Servicing Options Statement</i>	<i>25</i>
D	<i>Glossary</i>	<i>27</i>

1

INTRODUCTION

1.1

Purpose

This implementation guideline is intended to guide municipal land use planning for sewage and water servicing such that planning decisions *shall be consistent with* policy B7 of the Comprehensive Set of Policy Statements under section 3 of the *Planning Act*, 1995. This guideline describes an implementation approach for municipal planning for servicing and infrastructure with a particular focus on sewage and water services. It outlines an approach which is consistent with goal B, which is:

"To manage growth and change to foster communities that are socially, economically, environmentally, and culturally healthy, and that make efficient use of land, new and existing infrastructure and public services and facilities."

1.2

Rationale

The provincial interest in planning for services and infrastructure in land use planning is founded in the recognition that servicing and infrastructure provide support for development. In recognizing that servicing is inseparable from development, it follows that well-planned servicing leads to well-planned development and communities. Well-planned services can be built efficiently and used efficiently and avoid costs for later upgrading or rehabilitation that are common with poorly planned servicing. Planning for sewage and water services is particularly important to ensure that communities have a potable water supply and proper collection, treatment and disposal of sewage wastewater that protects the natural environment and public health. Planning for sewage and water services in land use planning allows the opportunity for servicing facilities to maintain or enhance the natural environment and

accommodate expected growth in a manner that is cost effective and promotes efficient use of servicing facilities.

The Ministry of Environment and Energy has an interest in municipal planning for sewage and water services which stems from the Ministry's mandate in administering the *Environmental Protection Act*, 1990, *Ontario Water Resources Act*, 1990, and *Environmental Assessment Act*, 1990. The Ministry's responsibilities under these Acts include the approval and compliance monitoring of sewage treatment and water supply facilities. In order to protect the natural environment and public health, it is imperative that land use planning decisions be made in the knowledge that proposed development can be accommodated in the long term with sufficient and appropriate sewage treatment and a sufficient potable water supply, in accordance with standards under environmental legislation.

1.3

Objectives

The objectives of this implementation guideline are to advise municipalities to plan for sewage and water services which maintain or enhance the quality of the environment while accommodating expected growth by:

- planning for and directing development to areas where municipal water and sewage facilities are available, with sufficient uncommitted reserve capacity to service the proposed development or to areas where there has been a commitment to new services or the expansion of existing services (where services will be available at the time of development), in accordance with long-term planning as established through the principles the Comprehensive Set of Policy Statements;
- using communal water and sewage services where multi-lot/unit development is considered for areas without full municipal services, to ensure the long-term viability of the services through municipal responsibility to protect the environment and public health; and
- determining, in the context of long-term planning and approved growth management objectives, that the consideration of development in areas without full municipal services is appropriate and site-specific environmental and public health considerations are addressed.

2

POLICY

Explanation and Implementation

2.1

Policy Explanation

2.1.1

Planning for Servicing and Infrastructure

The first part of policy B7 says that:

"Servicing and *infrastructure* considerations will form an integral part of land use planning."

Servicing and infrastructure are fundamental building blocks for development and have the potential to greatly impact the natural environment. "Infrastructure" refers to the physical structures that form the foundation for development, including sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities. "Servicing" describes the act or result of employing sewage and water facilities to meet the physical needs of development and the community.

It is important to anticipate servicing needs and potential environmental impacts when municipalities are making decisions about growth and how it should be accommodated. It is not only important for municipalities to consider the servicing needs within their own boundaries, but also to be aware and take into consideration the servicing needs of the province as a whole. In reaching land use planning decisions, municipalities should consider existing and planned provincially related infrastructure, such as hydroelectric, hydrocarbon, transit, transportation and communications corridors and facilities (see policies B5, B6, B16). For an explanation of the terms used in this guideline see Appendix D, *Glossary*.

2.1.2

Planning for Sewage and Water Services

Policy B7 goes on to say that:

"Municipalities will plan servicing facilities which maintain or enhance the quality of the natural environment to accommodate expected growth."

An effective means of planning for sewage and water services used by many municipalities is the preparation of servicing strategies such as multi-year sewage and water servicing plans. The Ministry of the Environment and Energy recommends that municipalities with the responsibility for sewage and water servicing plan for such services by preparing multi-year sewage and water servicing plans as one component of planning for growth management and preparing official plan policy. It is recommended that servicing plans be done in support of revisions to, or in the creation of, an official plan or can be done in support of planning documents prepared for areas proposed for potential growth (e.g., secondary plan or subwatershed plan).

It is recommended that municipalities communicate with neighbouring municipalities, and their respective public utilities where applicable, to develop cooperative approaches to planning for and providing sewage and water services. In many circumstances the most appropriate planning scale for sewage and water servicing is the watershed and subwatershed. The better understood the interrelationship between sewage and water servicing and natural water features and functions, the greater the efficiency of servicing over the long term and the more effectively can the natural environment be maintained. In the interest of more comprehensive decision making, municipalities may wish to take the opportunity to plan for servicing as one component of a broader planning exercise on a watershed/subwatershed scale.

Matters for consideration in the preparation of multi-year sewage and water servicing plans in conjunction with official plan policy include:

- investigate measures to resolve existing sewage or water problems within the municipality such as abatement of combined sewer overflows or addressing limitations to sewage collection/pumping stations and water distribution systems; and
- investigate servicing efficiency measures, such as the adoption of water conservation, toward reducing the demand on water supplies and treatment plant capacity (see policy statements and implementation guidelines for goal E); and

- address how the municipality intends to service anticipated growth and identify what the implications are for the sewage and water services and the need for new services; and
- account for the efficient use of available existing infrastructure by calculating and reporting on uncommitted reserve capacity for sewage and water treatment facilities and establish a monitoring program for future use of that capacity; and
- identify the physical and environmental constraints to development related to servicing; and
- adopt a hierarchy of servicing preferences as a guide for managing growth and settlement consistent with policy B7 (see section 2.1.3 of this guideline); and
- generally describe the type and level of water supply and sewage disposal services which would support municipal goals for environmental protection or enhancement, sustainability, urban intensification, and growth management in a manner which is efficient and cost effective; and
- draw conclusions regarding the principle of whether to permit development in areas outside existing full municipal services on the basis of:
 - an evaluation of servicing options which includes the potential for full municipal services and communal services; and
 - a determination of appropriate areas to target for growth on the basis of the servicing option available within the context of criteria outlined under policy statements B7 through B11; and
- investigate and classify areas outside fully municipal serviced areas which may be targeted for growth by generally evaluating the potential growth areas according to their suitability for servicing. These servicing/environmental investigations (along with other planning concerns) should be the basis for municipalities to direct appropriate forms of development to areas least likely to suffer adverse environmental impacts. To confirm that the principle of development is appropriate, the investigations should be an overview based on an evaluation using existing information on environmental constraints which include soils, groundwater and surface water conditions and use, agricultural uses, storm water drainage, existing land uses, and environmental and physiographic features; and

- address the issue of residuals management including hauled sewage (septage) utilization/disposal in the case of septic tank systems and sludge utilization/disposal in the case of digested sludge.

Note 1: If a multi-year sewage and water servicing plan is completed according to the five key features of environmental planning (see Note 2, Appendix C) and the requirements of the municipal class environmental assessment process, MOEE will recognize and give credit for work done within the plan as part of future class environmental assessments (see Section 2.3, *Municipal Engineers Association Class Environmental Assessment for Water and Wastewater Projects*, 1993, and Section 16.1, *Planning Act*, 1995).

2.1.3

Hierarchy of Servicing Preferences

Policy B7 concludes by identifying a hierarchy of servicing preferences:

"In areas serviced by *full municipal sewage and water services*, *development₁* will be permitted only if sufficient *reserve water and sewage plant capacity* is available to accommodate it.

Development₁ should be serviced by *full municipal sewage and water services* wherever feasible. Where *full municipal sewage and water services* are not provided, and where site conditions permit, multi-lot/unit *development₁* should be serviced by *public communal services*. Where the use of *public communal services* is not feasible, and where site conditions permit, *development₁* may be serviced by *individual on-site systems*. *Development₁* on *partial services* will be discouraged except in the situation where a *public communal service* is required to address remediation of failed *individual on-site systems*."

Official plans, in concert with sewage and water servicing plans, should adopt a hierarchy of servicing preferences which incorporate the principles in section 2 of this guideline and are consistent with policies B7, B8, and B9 as follows:

- development on full municipal services be the preferred mode of servicing where there is sufficient uncommitted reserve capacity or where there is the capability for full municipal services to be expanded;
- in areas lacking full municipal services, communal sewage and water services be the preferred mode of servicing multi-unit/lot development; and
- in areas lacking full municipal or communal services where development can be justified consistent with the Comprehensive Set of Policy Statements, the use of individual on-site sewage and water services may be considered subject to meeting environmental and public health requirements.

a) Full Municipal Services

- New development should be directed to settlement areas with existing full municipal services or to where there has been a commitment to new full municipal services consistent with the Comprehensive Set of Policy Statements. Municipalities should anticipate and plan for needed sewage and water treatment capacity to accommodate municipal growth and development objectives through the adoption of conservation measures to extend existing capacity and/or the expansion of capacity.
- Accordingly, an integral part of planning for services is determining the status of uncommitted reserve capacity at water and sewage treatment facilities and monitoring this capacity on an ongoing basis. Municipalities responsible for sewage and water servicing should assume responsibility for tracking, reporting and allocating uncommitted reserve capacity, in conjunction with water conservation measures to optimize the use of this capacity.
- Where a municipality has determined that it is appropriate, consistent with the Comprehensive Set of Policy Statements, to accept the principle of multi-lot/unit development adjacent to settlement area boundaries or built-up areas of hamlets, villages, towns, and cities which have existing full municipal sewage and water services, then full municipal services are the preferred method of servicing such development.¹(see Note 2)

¹ Note: Development on partial services (eg., the provision of municipal water services in the absence of municipal sewage services) will generally be discouraged. Local circumstances such as the existing means and quality of servicing and physical constraints to servicing will be considered in determining whether partial services may be appropriate.

b) Communal Sewage and Water Services

- Where a municipality has determined that it is appropriate, consistent with the Comprehensive Set of Policy Statements, to accept the principle of planned development in areas without existing full municipal services, the preferred method of servicing multi-lot/unit development is public communal sewage and water servicing (see Note 2).
- In preparing servicing plans or reviewing planning documents proposing development on communal services, municipalities should:
 - consider the potential, appropriateness and, if deemed necessary, the means of accommodating phased, multiple, or clustered development on communal services; and
 - designate areas for development proposed to be served by communal services based on an evaluation of environmental constraints that confirms that the principle of development is appropriate; and
 - plan to accept responsibility for public communal services for development proposing multi-lot/unit residential development (See Appendix B, *Application of Municipal Responsibility for Communal Sewage and Water Services*).

c) Individual On-site Sewage and Water Services

- In preparing servicing plans or reviewing proposals for development on individual on-site services in areas without full municipal services, municipalities should ensure that:
 - planned development can be justified consistent with the Comprehensive Set of Policy Statements; and
 - municipal official plans do not anticipate or identify the provision of municipal services; and
 - areas for development proposed to be served by individual on-site sewage and water services are designated based on an evaluation of environmental constraints that confirms that the principle of development is appropriate.

Note 2: Limited infill development on individual water supply and individual on-site sewage services within a settlement area may be considered only where: there is no suitable receiver for effluent discharge from a full municipal or communal sewage facility; there are no existing or potential water quality or quantity problems; and site conditions permit.

2.2

Implementation

Within the context of the principles outlined in this guideline, the planning authority should review planning documents circulated under the *Planning Act* as follows:

2.2.1

Official Plans

The planning approval authority should not recommend approval of new or revised official plans, without official plans identifying areas for growth through official plan policies, and designations based on multi-year sewage and water servicing plans which have evaluated servicing options consistent with sections 2.1.2 and 2.1.3.

2.2.2

Site-Specific Official Plan Amendment/Individual Application Review

For site-specific official plan amendments/individual applications that are submitted within the context of approved municipal planning documents which have incorporated planning for sewage and water services (consistent with policy B7 and as described in sections 2.1.2 and 2.1.3 of this guideline), the following should be met:

a) Full Municipal Services

- for site-specific official plan amendments, the municipality demonstrate (e.g., the proposal is in keeping with a municipal servicing strategy) to the approval authority that there will be sufficient uncommitted reserve sewage and water capacity available to service the proposed development (see Appendix A, *Calculating and Reporting on Uncommitted Reserve Capacity at Sewage and Water Treatment Plants, Sections 4.0 & 5.0*). For individual applications, the province considers capacity to be committed when draft approval is granted to a development in a fully serviced municipality.²

² In accordance with section 51, *Planning Act*, 1995, the approval authority in giving approval to a draft plan of subdivision may provide that the approval lapse after a specified time period, and thus, the committed capacity be re-allocated. See also section 70.3 regarding by-law to establish a system for allocating sewage and water services to land that is the subject of an application under section 51. It is appropriate that municipalities that wish to use this proportion describe in official plan policy the process for lapsing and re-location.

In circumstances where capacity is tied to the construction of new or expanded treatment facilities, the capacity will be considered available once:

- Environmental Assessment Act approval has been given³; and
- the municipal council responsible for financial decisions regarding sewage and water services has passed a council resolution approving a specific budget item that dedicates capital for the completion of facilities (such that the facilities are completed prior to the commencement of construction of development).

If a municipality brings forward a specific proposal for alternative approaches for calculating and reporting uncommitted reserve capacity, the MOEE Regional Office will consider entering into alternative arrangements (e.g., a development control agreement) with the municipality based on the merit of the proposal. Alternative approaches may be in regard to, for example, how the MOEE calculation is applied, use of an alternative calculation, or how a municipality allocates capacity.

b) Communal Sewage and Water Services

- an agreement for municipal ownership/responsibility for public communal services has been entered into between the developer and municipality for development proposing multi-lot/unit residential development (See Appendix B, *Application of Municipal Responsibility for Communal Sewage and Water Services*); and
- a terrain analysis and hydrogeological report or an assimilation capacity study have been completed in accordance with the requirements of the *Environmental Protection Act* and *Ontario Water Resources Act* to demonstrate that the proposal will not have an adverse effect upon the environment or public health.⁴

³ Municipalities may wish to combine planning processes. Under section 16(1) of the *Planning Act*, municipalities may prepare an official plan or official plan amendment that may be considered under the *Environmental Assessment Act* with respect to any requirements under the *Environmental Assessment Act*, including the Municipal Engineers Association Class Environmental Assessment for Water and Wastewater Projects, 1993.

⁴ See: (1) Manual of Policy, Procedures and Guidelines for Private Sewage Disposal Systems, 1982
(2) An Introduction to Communal Sewage Systems, 1994
(3) MOEE Guidelines B-7, Incorporation of The Reasonable Use Concept into MOEE Groundwork Management Activities

c) Individual On-site Sewage and Water Services

- a terrain analysis and hydrogeological report or an assimilation capacity study have been completed in accordance with the requirements of the *Environmental Protection Act* and *Ontario Water Resources Act* to demonstrate that the proposal will not have an adverse effect upon the environment or public health⁵

Many municipalities have been given responsibilities under contract with the province under Part VIII, *Environmental Protection Act*, RSO 1990, with respect to septic tanks and certain other sewage systems, including communal sewage systems which discharge to the subsurface. These responsibilities include (1) arranging for adequate inspection to be made of all parcels of land with respect to which an application for consent, plan of subdivision, minor variance, or plan of condominium is made which are not or will not be served by adequate sanitary sewers, and (2) commenting to the body or person to whom such application is made on the suitability of such lands for sewage disposal. These responsibilities are often exercised by the Board of Health.

2.2.3

Site-Specific Official Plan Amendment/Individual Application Review in the Absence of Planning for Sewage and Water Services in Approved Municipal Planning Documents

In the absence of municipal planning for sewage and water services (as described in this guideline), the planning authority should not recommend approval for site-specific official plan amendments/individual planning applications proposing multi-lot/unit development, unless it is demonstrated that servicing options have been investigated and reported by means of a Servicing Options Statement (see Appendix C, Servicing Options Statement). Servicing options include the potential for servicing development on full municipal services, communal sewage and water services, and individual on-site sewage and water services consistent with this policy.

⁵See: (1) Technical Guidelines for Septic Systems: Water Quality Impact Risk Assessment
 (2) Technical Guidelines for Private Wells: Water Supply Assessment
 (3) Manual of Policy, Procedures and Guidelines for Private Sewage Disposal Systems, 1982
 (4) Ontario Regulation 358 under Part VII, *Environment Protection Act*, RSO 1990
 (5) Ontario Regulation 903, *Ontario Water Resources Act* RSO 1990

For the purposes of this guideline, multi-lot/unit development means more than five lots/units of residential, industrial, commercial or institutional development.

"More than Five lots/units" has been chosen because it is consistent with how environmental legislation defines what constitutes communal services under sections 52 & 53, *Ontario Water Resources Act* RSO 1990, or under Part VIII, *Environmental Protection Act* RSO 1990. It is recognized that individual applications for small multi-lot/unit development in isolation from any other existing or proposed development may not be feasible on communal services, or that the density associated with a particular development on communal services may not be desired. In the absence of official plan policy based on planning for sewage and water services, a servicing options statement can address the fundamental planning and servicing options at hand and ensure that informed decisions are made for community development that are consistent with the Comprehensive Set of Policy Statements. The servicing options statement can demonstrate how a particular development proposal(s) (and associated servicing) can fit most effectively into the existing community planning/servicing scenario and into any potential growth scenarios for the community.

A *servicing options statement* is not necessary for:

- development proposing connection to existing full municipal services within a designated settlement area, when it can be demonstrated that there is sufficient reserve sewage and water capacity as described in section 2.2.2 of this guideline, or
- development proposing a servicing option that conforms to the existing official plan, where the official plan was prepared and approved in consideration of the principles described in this guideline and is consistent with the Comprehensive Set of Policy Statements.

Where applicable, the requirements of the municipal class environmental assessment process must be met (see *Municipal Engineers Association Class Environmental Assessment for Water and Wastewater Projects*, 1993).

Appendix

Calculating and Reporting Uncommitted Reserve Capacity at Sewage and Water Treatment Plants

1 *Rationale*

It is the position of the province that the number of lots in approved plans of subdivisions, developments committed by virtue of approved zoning, new official plans or site-specific official plan amendments, should not exceed the design capacity of the sewage and/or water system. In order to ensure that capacity is not exceeded it is necessary to determine what uncommitted reserve capacity is available. This appendix provides a means for determining uncommitted reserve capacity. As noted in section 2.2.2 of the implementation guideline, if a municipality brings forward a specific proposal for alternative approaches for calculating and reporting uncommitted reserve capacity, the Ministry of Environment and Energy (MOEE) Regional Office will consider entering into alternative arrangements with the municipality.

Prior to calculating the uncommitted reserve capacity, it is important to recognize other factors which may limit new development, such as:

- limitations to the sewage collection/pumping stations (i.e., basement floodings, overflow conditions, etc.);
- limitations to the water distribution system (i.e., low pressure caused by small diameter mains), and other factors.

To this end, the “owner” is responsible for ensuring these factors, as well as any of the relevant plant performance characteristics listed in Section 3.2 below, are considered before calculating uncommitted reserve capacity for water and sewage works.¹

Plant performance and hydraulic capacity should be closely related to municipal growth management objectives in order to produce environmentally sound decisions regarding servicing. Municipalities should recognize that plant expansion or upgrades typically require a minimum of 3 to 5 years to develop, and should therefore plan for their long-term development needs accordingly.

Municipalities should not recommend approval, and approval authorities should not consider approval for development proposals if the uncommitted reserve capacity calculation has not been prepared and submitted according to the principles set out in this document. Furthermore, if other factors which limit plant performance are not identified and addressed, the application must be considered incomplete. MOEE is not able to process incomplete applications.

¹ The “owner” refers to the legal owner of the facility, or the person designated as owner in the Certificate of Approval for the works.

2 *Role of the Ministry of Environment and Energy (MOEE)*

MOEE, as the regulatory agency, is responsible for facilitating and promoting the compliance with the *Environmental Protection Act*, the *Ontario Water Resources Act*, and regulations enacted under those statutes. This mandate is fulfilled in part through the issuance of Certificates of Approval, and based upon Ministry policies and guidelines. To this end, favourable comments from the MOEE on development proposals as they concern water and sewage treatment facilities, are contingent upon sufficient uncommitted hydraulic capacity and plant performance that is environmentally acceptable.

3 *Calculating Uncommitted Reserve Capacity for Sewage and Water Treatment Facilities*

In determining the uncommitted reserve capacity of sewage and water treatment plants, the following factors need to be considered: hydraulic capacity and plant performance in relation to environmental protection as set out in Ministry statutes, regulations and policies; and the Certificate of Approval. Each of these matters must be considered by both the municipality and the MOEE, in assessing whether development proposals should be entertained.

3.1 Hydraulic Capacity

The uncommitted reserve hydraulic capacity should be calculated using the following formula:

$$Cu = Cr - \frac{[L \times F \times P]}{H}$$

Cu = uncommitted hydraulic reserve capacity (m3/d)

Cr = hydraulic reserve capacity (m3/d)

L = number of unconnected approved lots

P = existing connected population

H = number of households or residential connections

F Defined under:

Sewage Treatment Plants

F = average day flow per capita (m3/capita/d)

Water Treatment Plants

F = maximum daily flow per capita (m3/capita/d)

Please refer to the definitions provided in Section 6.0 to assist you with this calculation.

Note 1

The Formula accounts for industrial, commercial, institutional and other flows by means of the per capita flow figure which includes flows from all types of land uses and other flow sources such as infiltration. In certain cases, such as where there is evidence of seasonal population fluctuations, rapid

growth and/or the existence of large industries, or in cases where per capita water or sewage flows for proposed new developments will be substantially different from historical flows, etc., the Regional MOEE Director may consider it reasonable and appropriate to modify the manner in which the calculation is completed. Municipalities are advised to consult their Regional MOEE office in this regard.

In order to provide additional protection against the design capacity of the systems being overcommitted, municipalities may choose to apply separate allocations for uses such as industrial plans of subdivisions, site-specific industrial uses characterized by high water consumption, existing vacant residential lots and similar examples that could significantly reduce the calculated reserve capacity by increasing the per capita flow figure.

Note 2

In calculating the uncommitted hydraulic reserve capacity, municipalities should ensure that the variable “L” represents all unconnected servicing commitments including:

- vacant lots/units in registered plans of subdivision and condominium;
- lots/units in draft approved plans of subdivision/condominium;
- the maximum development potential of lands (i.e., scale and density) as permitted under existing zoning;
- registered plans of condominium;
- vacant lots created by consent in serviced areas.

Note 3

For Water Treatment Plants

Maximum day flows to be subtracted from uncommitted reserve capacity should be calculated on the basis of those increased max day flows at the treatment plant, as opposed to a max day flow calculated for the development. The latter would be an unrealistic representation of the impact of a small development at the treatment plant in a large community.

The following are examples of calculations for sewage and water treatment plants, using the above formula:

For Sewage Treatment Plant

$$\begin{aligned} Cr &= 12,000 \text{ m}^3/\text{day} \\ L &= 3,000 \text{ lots} \\ F &= .45 \text{ m}^3/\text{day} \\ P &= 25,000 \text{ people} \\ H &= 8,000 \end{aligned}$$

$$Cu = Cr - \frac{L \times F \times P}{H}$$

$$Cu = 12,000 - \frac{(3000 \times .45 \times 25,000)}{8,000}$$

$$= 7,781.25 \text{ m}^3/\text{day}$$

For Water Treatment Plant

$$\begin{aligned}
 C_r &= 20,000 \text{ m}^3/\text{day} \\
 L &= 3,000 \text{ lots} \\
 F &= 0.9 \text{ m}^3/\text{day} \\
 P &= 25,000 \text{ people} \\
 H &= 8,000
 \end{aligned}$$

$$C_u = C_r - \frac{[L \times F \times P]}{H}$$

$$C_u = 20,000 - \frac{[3000 \times .9 \times 25000]}{8,000}$$

$$= 11,562.5 \text{ m}^3/\text{d}$$

3.2 Plant Performance Characteristics Which May Affect the Use of the Above Formula

For Sewage Treatment Plants

The following performance characteristics may be used as a basis for imposing limited or long- term development constraints:

- the treatment facility is in poor condition, performing erratically or not in accordance with its design;
- the effluent quality parameters exceed or are near the limits specified in the plant's Certificate of Approval;
- the sewage strength (i.e., organic loading) varies significantly due to industrial discharges into municipal sewers.

For Water Treatment Plants

The following performance characteristics may be used as a basis for imposing limited or long- term development constraints:

- the existing treatment facility is in poor condition and not capable of meeting the maximum day demands, limiting pressures, etc.
- existing water quality does not meet health related parameters of the Ontario Drinking Water Objectives as stipulated in the plant's Certificate of Approval.

3.3 Compliance with Certificate of Approval

Municipalities are responsible for ensuring that they are in compliance with Environmental Laws and the Certificates of Approval issued for their plants. Certificates of Approval typically identify effluent limits which must be met. Non-compliance for effluent quality must limit development in the same way as insufficient hydraulic capacity.

Typical examples of limiting factors established in Certificates of Approval for sewage works which must be complied with are: biochemical oxygen demand (BOD), suspended solids and phosphorus.

In many cases the Certificates of Approval also specify additional parameters which require monitoring (e.g., ammonia) depending on plant process. As a result, it is of critical importance that municipalities be aware of the specific requirements of their certificates. If the Certificate of Approval specifies a sampling protocol, it must be followed. If not, please refer to the MOEE policy entitled "Policy to Govern Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)" (MOEE Policy 08-06).

3.4 Policies of the Ministry of Environment and Energy

In addition to the requirements of the Certificate of Approval, there are a number of MOEE policies that govern the operation of treatment facilities (e.g., Ontario Drinking Water Objectives, Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources). This Ministry recommends that these policies be followed. Failure to comply with these policies may result in development restrictions imposed by this Ministry. Please refer to Appendix 1 for a listing of the policies. For copies of these policies please contact the nearest MOEE Regional or District Office.

4 *Annual Report*

Municipalities should produce an annual report within 90 days of the end of each calendar year, based on the calculation methods set out in this guideline. The annual report should address both hydraulic capacity and performance factors, and be retained by the municipality for a period of three (3) years. Under environmental legislation, these reports must be made available to Ministry personnel upon request.

The annual report must be authorized by an appropriate municipal official.² The date of the first annual report should be determined in consultation with the MOEE.

Note

Review and acceptance of an annual report by the MOEE should not be construed as confirmation of compliance with the requirements of the Certificate of Approval.

5 *Implementation*

Each development application circulated to the planning authority should be accompanied by written certification, prepared by the appropriate municipal official, which indicates that uncommitted capacity is available and has been allocated to the development.

6 *Explanation of Terms Used in Calculations of Hydraulic Capacity*

Sewage Treatment Plants:

Design Capacity:

The design capacity may be defined in the Design Report or in the Certificate of Approval. The components of the wastewater flow may include:

- domestic wastewater;
- industrial wastewater;
- inflow/infiltration;
- storm water.

² "Appropriate municipal official" should be someone with credentials qualifying him/her to certify the capacity calculation as being a true and accurate reflection of the status of the sewage and water works. In an organized municipality, this would most likely refer to either the CEO or the Clerk.

Average Daily Per Capita Flow:

The average daily per capita flow means the total sewage flow to the sewage works over twelve (12) consecutive calendar months, or during the period of operation upon which the report is based, divided by the number of days during the same period of time. Yearly average day flows are acceptable if the effluent compliance criteria for the defined parameters is based on average yearly concentration and loading limits.

Note

The use of 3 vs 5 year records in establishing representative average daily flows will be determined by the MOEE Regional Director.

Hydraulic Reserve Capacity:

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded average day flow.

Uncommitted Hydraulic Reserve Capacity:

The uncommitted hydraulic reserve capacity is obtained by subtracting the *previously committed flows* of registered and draft approved residential, commercial and industrial lots, from the existing hydraulic reserve capacity.

Commercial/Industrial Lots:

Sewage flows for commercial/industrial lots must be determined by the municipality. Municipalities should do this by estimating the water consumption / sewage figures for similarly sized, similar type developments and factor this information into the calculation of the uncommitted reserve capacity. Moreover, it should be understood that in some cases organic loading, and not hydraulic loading, may be the limiting factor.

In exceptional circumstances where it is not possible to estimate water consumption / sewage figures, municipalities may estimate the flow with the prior approval of the Ministry. If the Ministry agrees that this is acceptable in the specific situation, the following approach may be used:

Industrial/institutional/commercial flows can be equated to an equivalent residential flow. A production/consumption rate of 100 gallons or 450 litres per capita per day of sewage flow or water demand should be used for designing sewage plants. This number will vary according to municipality. Once a specific industry is identified, the municipality will have a better indication of the amount of water the industry requires or the amount of sewage flows produced. The municipality will be able to determine whether its present sewage works can accommodate the industry.

Draft Approval:

Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.

Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the province considers capacity to be committed to a development when draft approval is granted.

Water Treatment Plants

Design Capacity:

Design capacity of water treatment plants is defined as quantity of water which can be delivered to the distribution system when operating the plant under design conditions, and is sufficient to meet the maximum day demand. (*Greater capacities may be required depending on in-system fire flow requirements and storage capacity*). The design capacity of water treatment plants can be obtained from the Certificate of Approval, Water Taking Permit, the design documents or design/operating manuals.

Hydraulic Reserve Capacity:

The hydraulic reserve capacity is defined as the design capacity minus the actual existing recorded maximum day flow. In some instances, the capacity of ground water supply wells or the perennial yield of the aquifer must be determined in order to calculate the hydraulic reserve capacity for municipalities provided by such ground water supply systems.

Uncommitted Hydraulic Reserve Capacity:

The uncommitted hydraulic reserve capacity is obtained by subtracting the *equivalent flow commitments* to registered and draft approved residential, commercial and industrial lots from the existing hydraulic reserve capacity.

Commercial/Industrial Lots:

Water consumption for commercial/industrial lots must be determined by the municipality. Water demands for commercial/industrial establishments vary greatly with the type of water-using facilities present in the development, the number of people using it, etc. Industrial water demands will vary greatly with the type of industry, i.e., wet or dry operations.

In exceptional circumstances, municipalities may estimate the flow with the prior approval of the Ministry.

Draft Approval:

Draft approved lots/units are those lots granted approval subject to certain conditions. These conditions must be fulfilled before the lots can receive final approval.

Draft approval is a commitment on behalf of the province and the municipality, and is interpreted by the proponent and the public as a reasonable assurance that development can proceed. Within a serviced municipality, the province considers capacity to be committed to a development when draft approval is granted.

Maximum Day Per Capita Flow:

The maximum day per capita flow is based on the existing maximum day flow divided by the serviced population. Lower maximum day flow figures may be accepted if the data indicates the highest flow(s) to the system occurred on an isolated basis, or where the municipality has successfully attempted to reduce leakage from the system and has also installed flow reducing devices.

As an alternative, the maximum day flow per capita may be derived by multiplying the average daily per capita flow with the maximum day factor. The maximum day factor is available in the design report or determined by using the design manual.

Note

The use of 3 vs 5 year records in establishing representative maximum day flow will be determined by the MOEE Regional Director.

Addendum

Listing of Ministry of the Environment and Energy Policies Governing the Operation of Treatment Facilities

Guideline B-1

Water Management - Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment

Guideline B-13

Treatment Requirements for Municipal and Communal Water Works Using Surface Water Sources

Guideline B-14

Treatment Requirements for Municipal and Communal Water Works Using Ground Water Sources

Guideline B-15

Use of Pesticides In and Around Water Works

Guideline F-5

Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters

Guideline F-7

Minimum Accepted Level of Servicing for Municipally and Privately Owned Communal Systems

Guideline F-8-1

Policy to Govern the Provision and Operation of Phosphorus Removal Facilities at Municipal, Institutional and Private Sewage Treatment Works

Appendix

Application of Municipal Responsibility for Communal Sewage and Water Services

1 *Rationale for Municipal Responsibility of Communal Services*

The province, particularly the Ministry of Environment and Energy (MOEE), has had considerable experience in the design, construction, operation and maintenance of communal sewage and water services. In this capacity, MOEE has usually become involved in providing communal services as a result of environmental and public health concerns in small communities where multiple private individual on-site services have malfunctioned. The Ministry also has many years of experience in the approval of private communal services. Through the Ministry's approvals process the technology and capability of communal services to perform has been and will continue to be examined by MOEE. However, proper design and construction alone cannot guarantee the integrity of private communal services. The technology can only perform to its capability if the facility is operated and maintained properly.

It has been the experience of the Ministry and other jurisdictions that private communal services, in the absence of a responsible public authority to ensure proper operation and maintenance, have a greater likelihood to malfunction as a result of poor management practices and that private operators are less likely to have sufficient funds to remediate problems. By having a responsible public authority provide regular operational monitoring and maintenance of communal services and identify maintenance needs before malfunctions can take place, a high level of protection of the environment and public health can be assured.

Proper management through responsible operation and maintenance is one of the key advantages of communal sewage and water services over multiple individual on-site septic systems. This advantage is in large part a result of the flexibility available in the design and management of communal services to meet the collective servicing demands of the users and to meet the site-specific assimilative needs to protect the environment. Flexibility offers the opportunity for communal services to be "tailored" for the specific type of development as well as for the site-specific environmental conditions (i.e., soils, groundwater, surface water, topography).

Given that proper operation and maintenance are the key factors in ensuring the long-term viability of communal services, it is recognized that a municipality, as a publicly accountable body with permanency of place, is the appropriate authority to be responsible for ensuring the proper management of communal services.

The Ministry is particularly interested in ensuring the responsible management of communal services for residential development where residences may be permanent homes or primary residences. It has been the experience of MOEE that if private communal services fail (usually as a result of not applying sufficient funds to maintenance), the operator and residents do not usually have sufficient funds to fix the problem. The malfunctioning of sewage and water services is a public health and environmental threat that requires immediate action. With no funds and no immediate resolution forthcoming from the operator, the most

appropriate response by the Ministry may be to issue an order that in effect shuts down sewage and water services until they can be repaired. In the situation of permanent residences this has the effect of making homes uninhabitable and forcing residents to vacate. In the past, taxpayers' money has had to be used in these circumstances as a last resort to avoid people having to vacate their homes. This scenario can be prevented by proper management of communal services.

Municipalities should recognize that the responsibility to give planning approval to developments, imparts to municipalities an obligation to ensure that planning decisions represent viable development for the long-term, such that residents can rely on access to sewage and water services that protect the environment and public health. Municipal responsibility through municipal ownership, operation and maintenance is the most effective means of establishing a preventative management framework within which communal services can be operated and maintained with the assurance of their long-term viability, thereby protecting the public health and environment.

2 *Legislative Authority*

Environmental Protection Act

Ontario Water Resources Act

Planning Act

3 *Applicable Planning Proposals*

The document shall apply to:

- Expansions to existing multi-lot/unit residential development or new multi-lot/unit residential development to be served by communal water and sewage services and/or requiring approval under Sections 52 and 53, *Ontario Water Resources Act*, RSO 1990 and Part VIII, *Environmental Protection Act*, RSO 1990; or
- situations to be assessed on a case-by-case basis by the MOEE Director.

4 *Municipal Responsibility for Communal Services*

4.1 *Organized Areas*

In reviewing development applications located in organized areas that propose the uses described in Section 3.0 of this document, public communal sewage and water services will be required.

Where municipal ownership of communal services cannot be achieved, a *Responsibility Agreement* between the developer and the municipality will be requested by the planning authority. Such agreements will include provisions for municipal assumption of the communal services in the event of default and the provision of up-front secured funds (see Section 5.0).

The planning authority will not consider the use of *Responsibility Agreements* for applications proposing multi-lot/unit freehold residential development. For such development only municipal ownership, operation, and maintenance of communal services will be considered.

4.2 Areas without Municipal Organization

Developments proposing to use communal services should be encouraged to locate in municipalities where there are local public authorities to assume responsibility for these services and undertake remedial action in the case of default.

As a rule, the planning authority will comment negatively on proposals for new or expanded communal services in areas without municipal organization that are to be served by the uses described in Section 3.0 of this document. The rationale for this position is that in the absence of a municipal government organization, the long-term viability of communal services, and hence the protection of the environment and public health, cannot be assured.

Communal services in areas without municipal organization will only be considered in situations where they are required to address remediation of failed individual on-site services.

5 Responsibility Agreements

- Municipal responsibility agreements are legal agreements between a municipality and developer which stipulate the conditions under which communal services will be constructed, operated and maintained, as well as the action to be undertaken by the municipality in the event of default. Responsibility agreements form the basis for a preventative mechanism by establishing responsibilities for proper construction, operation and maintenance management practices, and by providing up-front secured funds for any remedial measures that may be necessary in the event of default. When proper management practices are in place and enforced, malfunctions arising from poor operation and maintenance can be prevented and the long-term viability of the services, and protection of the environment and public health, can be assured.
- Responsibility agreements should contain financial assurance provisions which will ensure a security satisfactory to the municipality is available to the municipality for capital improvements should repair or replacement of services become necessary in the event of default and municipal assumption of the communal services.
- Responsibility agreements should contain reference to Section 79(c), *Environmental Protection Act*, RSO 1990, and Section 62, *Ontario Water Resources Act*, RSO 1990, and a statement verifying municipal acknowledgement of the possibility that, in the event of an environmental or public health problem related to communal sewage and water services, the Director may make an order requiring the municipality to act to correct the problem. The *Ontario Water Resources Act*, RSO 1990, S.62, states:

“(1) Where a Director reports in writing to the clerk of a municipality that he or she is of the opinion that it is necessary in the public interest that water works or sewage works or any part thereof be established, maintained, operated, improved, extended, enlarged, altered, repaired or replaced, it is not necessary to obtain the assent of the electors to any by-law for incurring a debt for any such purpose and the municipality shall forthwith do every act and thing in its power to implement the report of the Director. R.S.O. 1980, c. 361, s. 33 (1).”

“(2) Where the municipality fails to do every act and thing in its power to implement a report made to it under subsection (1) forthwith after receipt of the report, and the time for taking an appeal has passed or there has been final disposition of an appeal by which the report is

confirmed or altered, the Director, with the approval of the Board, may direct that whatever is necessary to implement the report or the report as confirmed or altered be done at the expense of the municipality, and the Minister may recover the expense incurred in doing it, with costs, by action in a court of competent jurisdiction, as a debt due to the Crown by such municipality. R.S.O. 1980, c. 361, s. 33 (3).”

- In addition, responsibility agreements should generally set out the following:
 - a) operating and maintenance standards;
 - b) a definition of default;
 - c) an outline of remedial action in the event of default;
 - d) financial assurance provisions;
 - e) registration on title of the subject property;
 - f) easements, where required;
 - g) right of entry and inspection;
 - h) that when required, communal services (including any interests in the land) not already owned by the municipality will be transferred to the municipality at no cost to the municipality.

Appendix

Servicing Options Statement

Consistent with the Implementation Guideline, *Planning for Sewage and Water Services*, in the absence of municipal planning for services in an approved official plan (as outlined in Section 2.0, *Planning for Sewage and Water Services*), the planning authority should not recommend approval for site-specific official plan amendments/individual planning applications proposing multi-lot/unit development for other than development connecting to existing full municipal services in a settlement area, unless a *servicing options statement* has been completed. The servicing options statement must demonstrate that the potential for servicing the development on full municipal services and communal sewage and water services has been investigated. A *servicing options statement* should be prepared and/or endorsed by the municipality and submitted with the planning application by the developer in consultation with the municipality. The *servicing options statement* should address the following matters as appropriate:

- an evaluation of proximity of existing or committed full municipal services or communal services and the ultimate potential for future connection to full municipal services or communal services for the whole area proposed for development;
- where a development application is known or anticipated as being one of a number of proposals for the same development area, the evaluation of servicing options should not be isolated to the site-specific proposal, but should be completed within the context of the development potential for the whole area as determined through consultation with the municipality and based on proposed or existing municipal servicing plans and growth management objectives;
- an overview of the environmental suitability of the site for the proposed services based on information accessible at a municipal scale that can be applied to the proposed site proposal and generally addresses:
 - environmental constraints (e.g., environmental features, surface water, groundwater);
 - suitability of the terrain (e.g., soils, topography) of the site;
 - the performance of services in similar developments in the surrounding area; and
 - the scale (total areal extent), density, and type of use proposed for the development.
- evaluation of the relative potential and merit of each of the servicing options to serve the proposed development; and
- documentation of the decision-making process and rationale that led to the determination of the servicing option proposed for the development.

Note 1

The complexity/simplicity of investigation associated with a *Servicing Options Statement* should be relative to the complexity/simplicity of the development proposal at hand as determined by the matters to be addressed in the *Servicing Options Statement*.

Note 2

Certain sewage and water projects are subject to the *Class Environmental Assessment for Municipal Water and Wastewater Projects*, June 1993, and any project has the potential to be the subject of a designation request or bump-up request under the environmental assessment process. It is, therefore, in the best interests of the proponent (developer and/or municipality) to evaluate servicing options by combining planning for services, through a servicing plan (or servicing options statement), and environmental assessment, through the Class EA, into one planning process. To meet the environmental assessment planning criteria under the Class EA, a proponent's evaluation of servicing options should reflect the five key principles of successful planning under the *Environmental Assessment Act*:

- consultation with affected parties early on (consistent with the requirements of the Class EA), such that the planning process is a cooperative venture;
- consideration of a reasonable range of alternatives;
- identification and consideration of the effects of each alternative on all aspects of the environment;
- systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects; and
- provision of clear and complete documentation of the planning process followed, to allow "traceability" of decision-making with respect to the project.

Appendix

Glossary

Default:

For the purposes of this document default describes the situation whereby communal services are not being operated or maintained in accordance with prescribed standards and the operator is unable or unwilling to comply with prescribed standards which may include non-compliance with the Terms and Conditions of the Certificate of Approval for the system or works.

Freehold Development:

For the purposes of this guideline freehold development means development proposals subject to Section 50 of the *Planning Act* and not subject to the *Condominium Act*.

Infill:

For the purposes of this guideline infill means development on vacant lots or undeveloped lots within a built-up area.

Multi-lot/unit Development:

For the purposes of this guideline multi-lot/unit development means more than five lots/units of residential, industrial, commercial or institutional development.

Multi-Year Sewage and Water : Servicing Plan

For the purposes of this guideline multi-year sewage and water servicing plan means a plan prepared by a municipality responsible for sewage and water servicing that recommends a framework for the servicing of future works and developments which are to be distributed geographically throughout a study area and implemented over an extended period of time. The plan should contain long-range servicing strategies and long-term growth management goals which can form a basis for the preparation of official plan policy. The plan should address the implications for existing services to serve anticipated growth, efficiency of existing infrastructure including conservation measures, physical and environmental constraints to development related to

servicing, and ensure that new services support the goals of environmental protection, sustainability, urban intensification and growth management in an efficient and cost effective manner.

Sewage and Water Services

Full Municipal Sewage and Water Services:

Means piped sewage and water services that are connected to a centralized water or wastewater treatment facility and provided by the municipality or another public body.

Communal Sewage and Water Services:

Generally mean sewage works and sewage systems and water works that can be described as small-scale satellite wastewater collection, treatment, and disposal facilities, and water distribution, and possibly treatment, facilities using ground or possibly surface water as a source. Communal sewage services are separated from and unconnected to full municipal services which are connected to large centralized treatment plants that may serve entire municipalities. Communal sewage facilities can be comprised of gravity, pressure, or vacuum sewer collection systems, septic tank, secondary, tertiary, or stabilization pond treatment technologies, and discharge treated wastewater to either the surface of the ground, surface water, or subsurface environment.

For the purposes of this guideline and in keeping with existing legislation, “communal services” or “communal systems” mean those sewage works, water works and sewage systems to be approved, or approved under Sections 52 and 53, *Ontario Water Resources Act* RSO 1990, or under Part VIII, *Environmental Protection Act* RSO 1990 for the common use of more than five units [in the total development area] of full-time or seasonal residential or industrial/commercial occupancy or other occupancy as determined by MOEE staff.

Individual On-Site Sewage and Water Services/Systems:

Individual autonomous water supply and sewage disposal systems that are owned, operated and managed by the owner of the property upon which the system is located and which do not serve more than five residential units/lots.

Public Communal Services:

Means sewage works and sewage systems, and water works that provide for the distribution, collection or treatment of sewage and water but which:

- are not connected to full municipal sewage and water services;
- are for the common use of more than five residential units/lots; and
- are owned, operated, and managed by either:
 - the municipality; or
 - another public body; or
 - where ownership by a municipality or another public body cannot be achieved by a condominium corporation or single owner through a responsibility agreement with the municipality or public body, which requires municipal/public body assumption of the communal services in the event of default.

Uncommitted Reserve Capacity

See: Appendix A, *Calculating and Reporting on Uncommitted Reserve Capacity at Sewage and Water Treatment Plants*

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Growth and Settlement

Implementation Guideline for Policies B8, 9, 10, and 11

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
2	Policy Explanation and Implementation	3
	<i>Policy B8 a)</i>	<i>3</i>
	<i>Policy Explanation</i>	<i>3</i>
	<i>Implementation</i>	<i>4</i>
	<i>Identifying Sites For Intensification and Mixed Use</i>	<i>4</i>
	<i>Providing Opportunities</i>	<i>5</i>
	<i>Policy B8 b)</i>	<i>6</i>
	<i>Policy B8 b) i</i>	<i>6</i>
	<i>Policy Explanation</i>	<i>7</i>
	<i>Implementation</i>	<i>7</i>
	<i>Servicing Development</i>	<i>7</i>
	<i>Policy B8 b) ii</i>	<i>9</i>
	<i>Policy Explanation</i>	<i>9</i>
	<i>Compact Form</i>	<i>9</i>
	<i>Mix of Uses</i>	<i>10</i>
	<i>Efficient Densities</i>	<i>11</i>
	<i>Urban Structure</i>	<i>11</i>
	<i>Implementation</i>	<i>11</i>
	<i>Policy B8 c)</i>	<i>12</i>
	<i>Policy B8 c) i</i>	<i>12</i>
	<i>Policy Explanation</i>	<i>12</i>
	<i>Implementation</i>	<i>13</i>
	<i>Policy B8 c) ii</i>	<i>14</i>
	<i>Policy Explanation</i>	<i>14</i>
	<i>Implementation</i>	<i>15</i>

Implementation Guideline for Policies B8 to B11

<i>Policy B8 c) iii</i>	16
<i>Policy Explanation</i>	16
<i>Implementation</i>	16
<i>Policy B8 c) iv</i>	17
<i>Policy Explanation</i>	17
<i>Implementation</i>	17
<i>Policy B8 c) v</i>	18
<i>Policy Explanation</i>	18
<i>Implementation</i>	18
<i>Policy B8 c) vi</i>	19
<i>Policy Explanation</i>	19
<i>Implementation</i>	19
<i>Policy B9</i>	21
<i>Policy Explanation</i>	22
<i>Implementation</i>	22
<i>Policy B10 a)</i>	22
<i>Policy B10 a) i</i>	22
<i>Policy Explanation</i>	23
<i>Implementation</i>	23
<i>Policy B10 a) ii</i>	24
<i>Policy Explanation</i>	24
<i>Implementation</i>	25
<i>Policy B10 a) iii</i>	25
<i>Policy Explanation</i>	26
<i>Implementation</i>	26

Implementation Guideline for Policies B8 to B11

<i>Policy B10 a) iv</i>	26
<i>Policy Explanation</i>	26
<i>Implementation</i>	27
<i>Policy B10 b)</i>	27
<i>Policy B10 b) i</i>	27
<i>Policy Explanation</i>	28
<i>Implementation</i>	29
<i>Policy B10 b) ii</i>	29
<i>Policy Explanation</i>	30
<i>Implementation</i>	30
<i>Policy B10 b) iii</i>	31
<i>Policy Explanation</i>	31
<i>Implementation</i>	31
<i>Policy B10 b) iv</i>	31
<i>Policy Explanation</i>	32
<i>Implementation</i>	32
<i>Policy B10 c)</i>	32
<i>Policy B10 c) i</i>	32
<i>Policy Explanation</i>	32
<i>Implementation</i>	33
<i>Policy B10 c) ii</i>	34
<i>Policy Explanation</i>	34
<i>Implementation</i>	34
<i>Policy B10 c) iii</i>	35
<i>Policy Explanation</i>	35
<i>Implementation</i>	35

Policy B10 c) iv 35

Policy Explanation 36

Implementation 36

Policy B11 a) 36

Policy Explanation 36

Implementation 36

Policy B11 b) 37

Policy B11 b) i 37

Policy Explanation 37

Implementation 38

Policy B11 b) ii 39

Policy Explanation 39

Implementation 39

Policy B11 b) iii..... 40

Policy Explanation 40

Implementation 40

Policy B11 b) iv 41

Policy Explanation 41

Implementation 41

Appendix

A *Glossary* 43

1

INTRODUCTION

The well-being of Ontarians is dependent on a number of economic, social and environmental forces that together create a healthy environment. A vibrant economy, safe and supportive communities and the protection of non-renewable natural resources are all vital components of a healthy community.

In order to accommodate population growth and economic activity, land must be developed or redeveloped for new housing, businesses, industries, recreation areas and the necessary accompanying infrastructure and services. The manner in which this growth is accommodated can have a profound influence on our quality of life. If it is poorly managed, growth can lead to sprawling settlement patterns, service deficiencies, and can threaten and/or degrade the quality of the environment and the availability and viability of natural resources. If it is wisely managed, growth can result in communities which are economically and environmentally sound and which meet the full range of needs of their current and future residents.

The term "growth", as it is used here, is intended to apply just as equally to areas with minimal growth and development as it does to large, rapidly developing urban settlements. It is not only the pace of growth that is the critical factor - it is that change is occurring which necessitates development or changes in land use.

Managing growth through planning is assisted by having a vision of what is desirable for the future of a community. If a common vision is established, the planning process can direct growth and development to appropriate locations in suitable forms to best achieve this vision.

The Economic, Community Development and Infrastructure Policies stress effective planning and management of growth which promotes a comprehensive or broad view of planning for the long term, covering the entire municipality/planning area. Ultimately, the shift toward this comprehensive approach will lead to a process directed by official plan policies, rather than by development proposals. This shift will require expanded policy development at the municipal level.

In specific terms, the policies reflect the province's interest in the efficient use of land and public funds for development and its related services and infrastructure. The policies suggest that the best way to achieve this goal is for planning authorities to assess the land requirements for development in the context of long term population and employment projections. Local planning policies should determine the quantity and type of development that is appropriate, and the allocation of that development to settlement areas and, where appropriate, rural areas.

To effectively implement the provincial policies, official plans should have policies which: address the entire municipality, planning area or housing market area as appropriate; identify specific settlement areas targeted for growth; and protect areas where growth is not appropriate (such as environmentally sensitive areas and resource areas). These policies should relate expected growth to realistic population projections and employment targets.

The establishment of these policies will give municipalities and planning boards a framework for decision-making and more certainty in the planning process. Municipal settlement policies, therefore, must be consistent with the policies of goal B.

Together, policies B8-11 provide a comprehensive approach for managing growth. Policies prepared for upper- and lower-tier official plans must be consistent with provincial policies. Where no official plan exists, the approval authority will apply policies B8-11 in making land use planning decisions. In some cases, one or more of policies B8-11 is not applicable. For example, policy B10 applies to rural areas but not urban areas, and policy B11 applies to unorganized territories but not municipalities.

Policies B8 and B9 set out a comprehensive approach for the planning of settlement areas. The policies provide direction on the nature and location of development within settlements, as well as the expansion of settlement areas themselves. Policy B8 specifically addresses settlements on full municipal sewage and water services. Policy B9 deals with settlements on other forms of servicing. Policy B10 sets out the conditions for development in rural areas. Policy B11 deals with the unique conditions for development in areas without municipal organization.

The implementation of policies B8 through B11 is premised on the projection of growth in population, employment and housing needs (please see the Housing Policies under goal C). Additional information can be found in the implementation guideline on Housing Policies and the Projection Methodology Guideline.

2

POLICY

Explanation and Implementation

Please note that definitions for italicized words in the policy statements may be found in Appendix A - Glossary.

Policy B8 a)

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

- a) Opportunities will be provided in *built-up areas* for *intensification₁* and a *mix of uses*."

Policy Explanation

Intensification and a mix of uses contributes to more efficient use of land, infrastructure and public service facilities. The results of these efficiencies can be cost savings for municipalities with respect to infrastructure; a reduction of detrimental environmental impacts; reduced energy consumption; and improved access to home, work and shopping for community residents. Another key aim of intensification is to reduce the consumption of land, thereby helping to preserve agricultural and natural areas.

Policy B8 (a) applies specifically to built-up areas within settlement areas that are serviced by full municipal water and sewage services, as these areas are considered the most appropriate for intensification. (Note: This policy does not apply to settlement areas without full municipal water and sewage services, rural areas or to territories without municipal organization)

The policy directs municipalities to create opportunities for intensification, both residential and non-residential, to take place. It is understood that municipalities cannot guarantee that intensification will take place since that may depend on private initiatives. However, the municipality can ensure that local planning policies and plans support and encourage intensification projects. The municipal role in implementing this policy is to facilitate development

and redevelopment.

It is not expected that municipalities create opportunities for all potential intensification and mixed use development. Rather, municipalities should direct opportunities for intensification and mixed uses to areas which are most appropriate, given local circumstances.

It should be noted that the application of this policy is complemented by policy C4, which also deals with small-scale intensification. Policy C4 requires municipalities to provide opportunities for small-scale intensification in all residential areas except where infrastructure is inadequate or there are significant physical constraints.

Policies B8 and C4 differ in terms of the type of use and the scale of the intensification. Policy B8 applies to all types of land use, whereas policy C4 intensification applies only to residential land. Furthermore, the type of intensification activity described as small scale would likely be carried out on a property basis and not on a comprehensive basis. Small-scale intensification is unlikely to significantly change the look or character of a neighbourhood. Intensification as it applies to policy B8, on the other hand, may include efforts to significantly increase densities in a particular area of a town or city. For example, a local official plan may identify specific areas as nodes or corridors where more intense development should be encouraged.

Implementation

Identifying Sites For Intensification and Mixed Use

The first step for a municipality to take is to identify locations in built-up areas that have potential for intensification and mixed use. Municipalities may accomplish this task by:

- preparing a vacant land inventory and assessing under-utilized parcels of land and buildings;
- identifying locations where a mix of land uses may be appropriate (such as downtowns, main streets, selected key intersections, transit facilities, and along corridors served by public transit);
- examining the potential in older built-up areas and newer developments; and
- reviewing of standards for public uses.

The next step is to evaluate this total potential supply of sites. Physical and environmental constraints, and the ability to overcome them must be considered. A number of factors should be considered in the evaluation of potential sites for intensification and mixed use. These include:

- existing and potential capacity of infrastructure, public services and facilities;
- location of key transportation corridors;
- the scale and size of the potential (re)development;

- land use compatibility (e.g., noise, dust, odour);
- existing neighbourhood; and
- the location of contaminated sites and assessment of remediation potential.

Providing Opportunities

Municipalities have several ways in which they can provide opportunities for intensification and mixed uses in built-up areas.

Once a municipality has identified potential sites and determined where intensification is appropriate the next step is to ensure that local planning documents contain provisions which allow, and in fact, encourage intensification and mixed use development to take place. A municipality can do so in the following ways:

- Identifying specific areas as target areas for intensification and mixed use in the official plan (designating a location as a key mixed use node or corridor);
- Including flexible policies in the official plan which would permit a certain amount and/or type of intensification or mixed use without an official plan amendment (for example, allowing specified neighbourhood commercial uses in any residential designation);
- Ensuring there is sufficient water and sewage plant capacity for intensification to occur (see policy B7). Implementing conservation measures improves efficiency and will result in increased capacity. (refer to policy E1);
- Providing opportunities for other infrastructure and public facilities at selected locations, to encourage infilling;
- Adopting development standards that would support compact urban form;
- Actively promoting preferred sites for intensification and mixed use;
- Amending municipal documents such as the official plan and zoning by-law to remove any barriers to intensification and mixed use;
- Investing in infrastructure such as new transit lines. Other projects such as a community centre or library may revitalize an area and promote intensification. (refer to policies E2, B5 and B6);
- Encouraging ministries, school boards and the public service to work together to coordinate the location of public service facilities to reduce land and energy consumption; and
- Promoting mixed use of community/human service facilities (e.g., schools combined with day-care facilities, health care clinics, etc.).

Residents, business groups, developers, public service providers and others should be involved in this process. Early involvement in the planning process will also assist public service providers to proactively plan for the impacts that future growth will have on their specific interests.

In order to assist approval authorities in determining how this policy has been addressed municipalities should document how they have provided opportunities for intensification and a mix of uses in built-up areas. The level of detail, of course, would vary according to the size of the municipality. The information may then form part of the background material for an official plan or secondary plan. The information should include the following:

- the potential supply and demand of units from intensification and a mix of land uses;
- analysis of any physical, environmental, servicing or other constraints;
- preferred locations (where appropriate); and
- how opportunities were provided through planning documents and other means for intensification and a variety of land uses on the selected sites in built-up areas.

The process of identifying and providing opportunities for intensification required by policy B8 a) should be linked to the implementation of the housing policies C1 to C8, the four conservation policies, E1 to E4, and related policies under goal B - B1, B5, B6 and B7.

Policy B8 b)

Policy B8 b) i

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

b) Areas proposed for *development₁* which are within *settlement areas* but which are not *built-up areas*:

- i) will be logical extensions of *built-up areas* and will be serviced by *full municipal sewage and water services* with sufficient *reserve water and sewage plant capacity* to accommodate proposed *development₁*;"

Policy Explanation

The intent of this policy is to encourage development to proceed in an orderly and rational fashion. This can best be accomplished by using up the undeveloped portions of a settlement area in a manner which provides a logical extension of the existing built-up area.

It is expected that expansions to built-up areas will be serviced by full municipal sewage and water services with sufficient reserve capacity. This means that capacity must be available at the time of draft approval of a specific development proposal.

In this case, the applicable definition of development is the first definition from the Comprehensive Set of Policy Statements.

Implementation

In order to implement this policy, municipalities should determine what is a logical extension of development. In approaching this task there are a number of factors to consider:

- Logical extensions of built-up areas within settlement areas should be as close to existing built-up areas as is feasible in the context of other applicable policies of the Comprehensive Set of Policy Statements.
- In some circumstances, a physical or human-made barrier may impede opportunities for an adjacent extension, but, there may be justification to extend the development beyond such barriers. All of the applicable policies of the Comprehensive Set of Policy Statements, and their related implementation guidelines should be used in making these decisions. For example, significant environmental areas and hazard lands (where there are restrictions on development) are to be avoided. In some cases these must be avoided.
- Municipalities, in particular growth municipalities, should prepare a staging/phasing strategy as a tool to establish the logical extension of its settlement areas. Capital works budgets and other municipal programs should be linked to the strategy.

Servicing Development

This policy relates to settlements with full municipal services. In such settlement areas new development must be serviced by full municipal sewage and water systems. The policy requires that areas proposed for development be serviced so that sufficient reserve water and sewage capacity will be available to accommodate proposed development. This means that draft approvals should only be issued where: a) existing water and sewage treatment services leading to the site have the capacity to accommodate the proposed development, or b) the Environmental Assessment (or appropriate approvals) have been completed and financing is in place for new or expanded facilities. Section 2.2.2a) of the guideline for policy B7 addresses circumstances under which capacity is considered to be available, where availability of capacity is tied to the construction of new or expanded treatment facilities. Please refer to Appendix A of that guideline

for more information on calculating and reporting sewage and water capacity.

The implementation guideline for policy B7 requires that at the lot creation stage, for example, servicing capacity must be available and allocated to the development prior to draft plan or provisional consent approval. However, an official plan amendment or rezoning application to permit the creation of new lots may be approved only if it has been demonstrated that sufficient reserve capacity will be available at the time of lot creation or rezoning. In order to avoid future problems at the development approvals stage, municipalities should consider potential obstacles to the provision of services, such as financing and *Environmental Assessment Act* approvals as early as possible in the process. For further information, please refer to the implementation guideline for policy B7.

The determination of the ability to service logical extensions of built-up areas must be reached in part by planning for servicing and infrastructure as described in policy B7, including the criteria to be evaluated in the preparation of multi-year sewage and water servicing plans as described in the implementation guideline to policy B7.

To illustrate, Town A has a sewage treatment plant design capacity of 10,000 mg/day. The Town has committed 9,000 mg/day to existing and approved residential, commercial, industrial and other development. Town A may therefore allocate the reserve capacity of 1,000 mg/day towards future development. If the Town receives applications for proposed plans of subdivision requiring 1,500 mg/day in total the Town may allocate the reserve capacity of 1,000 mg/day to the corresponding number of lots. Those lots in the proposed plans of subdivision may then receive draft plan approval. The remaining portions of the proposed plans of subdivision cannot receive draft plan approval as they have no servicing allocation. However, in accordance with policy B7 the municipality should take steps to increase capacity, so that it will be available to serve the additional development at the time it is required.

This guideline should be read together with sections 51, 53 and 70.3 of the *Planning Act*, and the regulations passed under those sections.

Policy B8 b) ii

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

b) Areas proposed for *development*₁ which are within *settlement areas* but which are not *built-up areas*:

- ii) will have a compact form, a *mix of uses*, and densities that efficiently use land, *infrastructure*, and *public service facilities*."

Policy Explanation

This section of the policy governs the form of new development which would expand the built-up area of an existing community. The rationale underlying these development guidelines is the same as that for intensification of existing areas and for extensions of settlement areas - that a compact urban form with mixed uses and efficient densities provides the following benefits:

- preserves farmland, natural heritage and the integrity of the landscape;
- makes efficient use of infrastructure, lowering per capita costs for construction and maintenance;
- allows more efficient delivery of public services such as postal delivery, garbage collection, policing, snow removal, school busing, and public transportation;
- reduces energy consumption for transportation and buildings;
- reduces travel distances and increases accessibility to community activities; and
- provides the basis for a diversified transportation system.

Compact Form

The term "compact" refers to:

1. a contiguous, rather than scattered or leap-frogging, development pattern;
2. closely knit land uses with most buildings in close proximity to one another and the street.

As the built-up areas of a community expand in size, the contour of the urban envelope may vary to accommodate natural features, but should generally concentrate development and activities without significant interruptions, other than designated open spaces. For example, significant amounts of land can be saved by applying alternative development standards (see the technical appendix to the implementation guidelines on *Alternative Development Standards*), which reduce requirements for front and side yard set-backs, the width of street and road allowances and design of intersections. A compact community means minimizing the number of vacant lots, empty fields, and abandoned or derelict sites, ensuring that these are developed before expanding the built-up area.

Mix of Uses

The notion of mixed uses in new development involves planning for a balance of uses appropriate to the scale of the planning areas. On the neighbourhood and district scale, this would include a variety of housing types located within close proximity (walking distance) of local shops, services, parks, recreation and school facilities and, if possible, transit service.

At the community scale, planning should aim for a mix of housing and employment opportunities and a full range of essential goods and services (according to the size of the community - specialized services provided at the regional level). A diversity of activities and building types in close proximity, appropriate to the setting, provide a large number of benefits:

- more efficient travel, due to combining of common destinations and reduced travel distances;
- more balanced travel patterns in terms of time and direction, making more efficient use of road and transit system;
- housing, employment and services for all members of the population at all stages of their life cycle;
- the presence of people on major streets at all times of the day and evening, creating a greater sense of security and community; and
- more economic and social opportunities as buildings of varying age, size and style provide sites for a variety of enterprises and activities.

Large, single-use areas should therefore be avoided, with the exception of those uses which must be separated, such as noxious industries or airports (see guideline for policy B17). At the same time, it is still important to protect the quality of life in residential areas from noise, traffic and inappropriate uses. Mixed-use developments combining stores, offices and higher density residential can be concentrated in nodes and corridors.

Efficient Densities

The term "density" can refer to the number of people living and/or working in a given area, expressed as persons per hectare or persons per square kilometre (gross urban density) or as the number of dwelling units per hectare (d.u/h).

It is important to establish designations which provide opportunities for population densities at which existing services are cost effective before areas that would require the extension of services are designated. Higher population densities can support a good mix of shops and services in a given area and allow for cost-effective delivery of infrastructure and public services and facilities. For example, public transit service is particularly dependent upon adequate residential and employment densities, with the population density related to potential ridership, and ridership levels determining the quality of service that can be provided at a given subsidy level, (see guidelines on policy B5, transportation). Thus, if properly planned, higher densities can provide the basis for better transit service and a better walking environment, and the opportunity to reduce the number of trips made and distance travelled in private vehicles.

In this example, an efficient density is one which is transit supportive. The relationship of density to the provision of other types of infrastructure and public services and facilities should also be considered when planning for efficient densities.

The need for efficient densities does not imply uniformity. There can be great variation in lot sizes and building types across a given community, as long as the average Gross Urban Density is adequate.

The need for efficient densities should not be interpreted to justify bad design, inappropriate development, or over-development of already high-density neighbourhoods. The key is to retain diversity of uses and human scale design.

Urban Structure

Thus, the policy requires that extensions to built-up areas be compact in form with a mix of uses, at efficient densities. This new development should evolve as part of a coherent urban structure, focused on designated nodes and corridors and based on a framework of interconnected streets with short blocks. Transit systems require simple, direct routes and lots of riders with common destinations. Short blocks serve the needs of both pedestrians and transit riders who need easy access to transit corridors for service (see policies B2, B3, B5, E2).

Implementation

Compact form can be achieved in a number of ways, such as:

- Planning for densities which efficiently use land, infrastructure and public services and facilities throughout the settlement area;

- Targeting specific nodes and corridors for high concentrations of development and public facilities/infrastructure;
- Specifying minimum densities in official plans and zoning by-laws;
- Allowing for intensification;
- Using alternative development standards;
- Using a parcel of land for more than one purpose (e.g., a joint use of public and private facilities such as schools, places of worship and shopping centres); and
- Encouraging a mix of residential, employment and cultural activities.

Refer also to policies E2, B5 and B6, and their respective implementation guidelines.

Policy B8 c)

Policy B8 c) i

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

- c) Extensions to *settlement areas* will be permitted only if the following conditions are met:
 - i) the amount of land included within extensions is justified, based on the amount of land available for *development*,¹ in the *settlement area* and on the population projections and employment targets for the municipality for a planning horizon of 15 - 20 years, unless a longer time period has been established for specific regional municipalities as a result of a comprehensive provincial planning exercise such as that coordinated by the Province in the Greater Toronto Area;"

Policy Explanation

This policy encourages municipalities to approach the designation of land for development in a manner which is: 1) comprehensive (includes the entire municipality, not site specific); 2) long

term (projects as far into the future as is feasible, i.e. 15 to 20 years is recommended); and 3) strategic (examines options for development in the context of meeting provincial and local policy objectives). When designating land for future development the decision should be based on the population projections, employment targets and housing needs (in accordance with the Housing Policies) for the municipality.

Ideally, extensions to settlement areas are to be considered as part of the preparation or review of an official plan. In the official plan exercise, a municipality should determine the amount of growth that is expected to occur within 15 to 20 years, calculate the land requirements associated with this level of growth and then allocate land to meet the need. Thus, any extension to a settlement area must be considered in the context of the growth projections and allocation of development for the entire municipality.

When a proposal for development goes beyond the settlement areas identified in the official plan it must be justified. The purpose for this condition in the policy is to avoid unnecessary expansion of development when the need can be satisfied within settlement areas.

Implementation

Municipalities should determine the land requirements for expansion of settlement areas in the context of population, employment and housing needs.

The projections should be prepared on a regional or county basis, wherever feasible. Sometimes growth and development patterns go beyond political boundaries. In these situations, projections of future trends will tend to be more reliable if they are based on the functional unit rather than the political unit. The Greater Toronto Area (GTA) planning exercise, which involved several upper-tier municipalities, is an example. Moreover, under the new planning system, upper-tier official plans play a critical role in the provision and implementation of policies. They contain the broad policy directions on growth and servicing which provide the basis for local official plans. Where upper-tier planning exists, the projection and allocation of growth in population, employment and housing needs should be done by the upper-tier council. This does not mean that a "top down" process is required, however. Dialogue between the upper-tier government and the local municipalities is key to ensuring appropriate estimates. Advisory working groups composed of municipal staff are often useful for this purpose.

In areas that do not have upper-tier planning or where the functional economic boundaries differ significantly from the upper-tier municipal boundaries, the projections and allocations will have to be done through intermunicipal discussion. Advisory working groups are often useful in this context, too.

In allocating projected population, employment and housing needs, consideration should be given to such factors as the amount of undeveloped land and the opportunities for intensification within settlement areas.

Additional information on the steps involved is available in the Projection Methodology Guideline.

A 15- to 20-year planning horizon should be sufficient to allow both upper- and lower-tier municipalities to undertake comprehensive planning. The policy requires that settlement area designations be based on this time frame. However, there may be circumstances where a different approach is more appropriate. For example, in smaller, lower-tier municipalities or more resource oriented municipalities it may be preferable to designate for a reduced planning horizon given the nature of changing local circumstances. This does not preclude municipalities from planning for other services and facilities on the longer 15- to 20-year time frame.

At the same time, the policy permits regional municipalities to plan for a longer time period provided that a comprehensive provincial planning exercise has satisfied the need to plan beyond 20 years. In the Greater Toronto Area (GTA), for example, a provincial planning exercise was undertaken to look at growth in the 5 GTA regions because of the interdependence and relationship of each region to the others. In the GTA exercise the planning framework goes beyond 20 years.

Policy B8 c) ii

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

- c) Extensions to *settlement areas* will only be permitted if the following conditions are met:
 - ii) areas proposed for *development₁* are logical extensions of the *settlement area*, and will be serviced by *full municipal sewage and water services* with sufficient *reserve water and sewage plant capacity* to accommodate proposed *development₁*;"

Policy Explanation

This policy is similar to policy B8 (b) i) (extensions of built-up areas). If the conditions in B8 (c) i), (i.e., justification for the need for the extension can be established), then a proposal for an extension to a settlement area must also demonstrate that it is a logical extension of the settlement area. The purpose of this policy is to avoid pockets of development which are unrelated and unconnected to existing settlement areas. This type of unrelated and unconnected development is costly to service and can lead to a continued pattern of scattered development.

As with policy B8 b) i), expansion areas must be planned so that reserve water and sewage plant capacity will be available at the time of lot creation or rezoning. Planning to ensure that capacity will be available at the time of development is addressed in policy B8 c) iii).

Section 2.2.2 a) of the guideline for policy B7 addresses circumstances under which capacity is considered to be available, where availability of capacity is tied to the construction of new or expanded treatment facilities.

This guideline should be read together with section 70.3 of the *Planning Act*, and the regulations passed under that section.

Implementation

In order to determine the most appropriate location for the growth of settlement areas, a comprehensive assessment of possible locations is recommended. In addition to the factors listed in connection with B8 (b) i), municipalities should consider:

- A location away from incompatible land uses such as long term on-going mineral extraction operations, protected environmental areas and hazard lands or prime agricultural areas (see implementation section for policy B8 (b) i);
- The location of other settlement areas where separation may be desirable to maintain identifiable communities; and
- Existing residential development adjacent to settlement areas (an extension to attempt to integrate existing development).

Policy B8 c) iii

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

c) Extensions to *settlement areas* will be permitted only if the following conditions are met:

iii) a strategy for the staging, financing and construction of the *infrastructure* for the extension is formulated;"

Policy Explanation

Land use planning for the extension of settlement areas and the infrastructure planning to service the growth should be done together. (e.g., coordination of approvals required under the *Planning Act*, *Environmental Assessment Act* and other legislation). This ensures that infrastructure will be available at the right time and right place to service the expanded area. It also can help to ensure that problems with approvals in either of these planning exercises can be recognized early by all concerned before major commitments of time and money are made. Even if no significant problems arise, the coordination of these two processes saves time and money.

Infrastructure is primarily defined as physical structures like roads or water and sewer services that form the foundation of development, otherwise referred to as "hard services". Planning should ensure that infrastructure is available when required. Depending on the nature of the infrastructure, these facilities may be required at different points in the development process. All affected infrastructure providers should be consulted in the formulation of the strategy.

Infrastructure does not include public service facilities such as schools, or community buildings such as recreation facilities or libraries. This does not mean that public service providers such as school boards should not be planning for their facility needs. Extension to settlement areas will have an impact on their capital needs and they should be involved along with other decision makers early on in the process of developing strategies to accommodate future growth. The implementation guideline on policy B1 addresses the linkage between social and human services needs and land use planning.

Implementation

There are several different ways that this requirement can be achieved. A servicing strategy which deals with extensions to settlement areas may be developed as part of a larger municipality-wide servicing strategy, or the servicing strategy could be developed for a specific development

proposal which is an extension to a settlement area. In either case, the municipality with responsibility for servicing must formulate a strategy which identifies the staging, financing and construction of the infrastructure. This should be done in cooperation with the local municipality where applicable. For example, where a Regional Government is responsible for providing sewer and water services, the Region should consult the local municipality when formulating the strategy.

The strategy should determine how growth in the expanded settlement areas is to be serviced; establish priorities for the staging and timing of construction of new and improvements to existing infrastructure; include the estimated costs and sources of funding of these works; and be based upon the population projections and employment targets for the expanded settlement area based upon policy B8 (c)i.

Consideration should be given to policy B7, including the criteria to be evaluated in the preparation of multi-year sewage and water servicing plans as described in the implementation guideline for B7.

Policy B8 c) iv

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

c) Extensions to *settlement areas* will be permitted only if the following conditions are met:

- iv) opportunities are provided in the *settlement area* for the efficient use of land, *infrastructure*, and *public service facilities* through *intensification*, a *mix of uses* and compact form;"

Policy Explanation

This section of the policy refers to the provision of opportunities for intensification, mix of uses and compact form within the settlement area, as a condition for permitting an expansion of the settlement area. This section of the policy cites the need to ensure that plans for extension of a settlement area do not detract from or replace the ability to achieve efficient densities and a mix of uses within the existing boundaries of the settlement area.

Implementation

Please refer to the implementation sections for policy B8 a) and policy B8 b) ii .

Policy B8 c) v

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

c) Extensions to *settlement areas* will be permitted only if the following conditions are met:

- v) the extension will have a compact form, a *mix of uses*, and densities that efficiently use land, *infrastructure*, and *public service facilities*;"

Policy Explanation

This policy stresses the need for a mix of uses, intensification and compact form in extensions to settlement areas. This can be done when designing new expansion areas. Furthermore, newly developed areas must be able to incorporate additional units over the longer term. Refer to policy B8(a) and B8(b) ii). The guidelines on policies B5 and B6 also provide relevant material.

Implementation

Examples of ways to provide for compact form, mix of uses and densities that make efficient use of infrastructure for expansions include:

- Flexible zoning that allows for the creation of apartments above stores allows for both a mix of uses and increased overall densities in neighbourhoods;
- Co-location of schools and parkland that results in the need for a smaller parcel of land and therefore allows for more compact form in a residential neighbourhood and more efficient use of land; and
- Other types of multi-use community based facilities.

Policy B8 c) vi

"Where *settlement areas* within a municipality are serviced by *full municipal sewage and water services*:

c) Extensions to *settlement areas* will be permitted only if the following conditions are met:

vi) *prime agricultural areas* are included in the extension only if there is no reasonable alternative, but in all cases *specialty crop land* will be avoided."

Policy Explanation

Goal D of the comprehensive set, addressing agricultural land, states that the goal of the province is to protect prime agricultural areas for long-term agricultural use. The province recognizes, however, that in some cases settlement areas may be allowed to expand onto prime agricultural areas where there is no reasonable alternative.

But, in all cases specialty crop land will be avoided. This means that a settlement completely surrounded by specialty crop lands can only grow within the existing approved settlement area boundary, through such means as infilling and redevelopment.

Implementation

A municipality should take certain steps before considering any expansion onto prime agricultural land. These steps include:

1. identification of prime agricultural land;
2. determination of permitted uses in prime agricultural land uses; and
3. consideration of alternative locations on lower capability agricultural lands.

A proposal for expansion of a settlement area onto prime agricultural land should provide a justification which demonstrates that there were no other options on rural land or land of lower agricultural capability and also that this need cannot be satisfied through intensification or expansion within settlement areas. All other provisions of policies B8, B9 and B10 should be addressed.

Further guidance is provided in the implementation guideline for policies D1 to D5. Consultation with the Ministry of Agriculture, Food and Rural Affairs is also advisable.

These considerations should be documented and provided in support of proposed settlement area expansions.

Policy B9

"Where *settlement areas* within a municipality are not serviced by *full municipal sewage and water services*:

- a) Areas proposed for *development₁* which are within the settlement area but which are not built-up areas:
 - i) will be logical extensions of *built-up areas*, and will be serviced by *public communal services* or *individual on-site systems*; and
 - ii) will have a compact form, and densities and uses appropriate to the *sewage and water systems* proposed.
- b) Extensions to the *settlement area* will be permitted only if the following conditions are met:
 - i) the amount of land included within extensions is justified, based on the amount of land available for *development₁* in the *settlement area*, and on population projections and employment targets for the municipality for a planning horizon of 15 - 20 years, unless a longer time period has been established for specific regional municipalities as a result of a comprehensive provincial planning exercise, such as that coordinated by the Province in the Greater Toronto Area;
 - ii) areas proposed for *development₁* will be logical extensions of the *settlement area*;
 - iii) a strategy for the staging, financing and provision of any required *infrastructure* for the extension is formulated;
 - iv) the long-term suitability of the site for *public communal services* or *individual on-site systems* is demonstrated; and
 - v) the extension will have a compact form, and densities and uses appropriate to the *sewage and water systems* proposed; and
 - vi) *prime agricultural areas* are included in the extension only if there is no reasonable alternative, but in all cases *specialty crop land* will be avoided."

Policy Explanation

Policy B9 establishes requirements for the nature and location of development in settlement areas without full municipal services. Sewage and water services may be provided by public communal services, individual on-site systems or where partial services exist (the latter meaning a combination of piped municipal water and private septs, or piped municipal sewers with private wells).

The policies in section B9 are identical to those in section B8 with two exceptions: 1) in order to plan appropriately for servicing, municipalities must consider the suitability of the site for the proposed servicing (rather than allocating reserve capacity); and 2) the approach to intensification should be different for areas without full municipal services. While there may be less opportunity for intensification in areas without full municipal services, there is still potential for intensification in some situations. For example, some public communal servicing schemes may be able to accommodate higher densities. Generally, higher densities can be achieved in settlement areas on municipal piped sewers (and private wells), versus those areas with municipally piped water and private septic systems.

Implementation

Please refer to the implementation section for policy B8. The guidelines for policy B7 will also provide further guidance on appropriateness and long term suitability of a site for public communal or on-site individual services. These policies and guidelines should be read in conjunction with policy B7 and its accompanying guideline.

Policy B10 a)

Policy B10 a) i

"In *rural areas* within a municipality:

a) Residential *development*₁ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:

- i) the demand for the type and scale of *development*₁ is justified based on the population projections for the municipality for a planning horizon of 15 - 20 years and the amount of suitable land available for the proposed type of *development*₁ in *settlement areas* within the municipality;"

Policy Explanation

Encouraging development to occur within settlement areas will support the efficient use of existing infrastructure, preserve agricultural land and natural areas, and support the continuance of the role of settlement areas as local service centres. During the official plan development and review process, a municipality must determine population projections and employment targets, and associated land requirements for the future. A municipality may wish to consider allocating a limited portion of its future development to rural areas provided there is the demand, that it is compatible with surrounding rural uses, does not harm the environment or disturb important natural resources; and maintains the rural character of the area. Any development proposed for these areas must fit into the overall population and employment projections for the municipality. And, again, as with any planned development, the official plan should clearly document where and what type of development should occur. This avoids reactive or ad hoc decisions and assists the public in knowing in advance the type and location of future development.

A variety of residential types can be found in rural areas including both permanent and seasonal uses. Generally, seasonal residential development can be expected to have different impacts on the surrounding area than permanent residential development. Municipalities should consider the known history of conversion of seasonal dwellings. If there is a trend towards conversions, it would be wise to evaluate any new proposals for seasonal development in the same context as permanent residential (that is, expect the demands on services and impacts on the environment and the community to be equivalent to those of a permanent development.)

Implementation

A number of factors should be considered in justifying the demand for rural residential development. The Projection Methodology Guideline provides specific guidance on simplified methods for determining housing needs and the associated land requirements.

Allocation of development to the rural area may take place in two ways: as part of the official plan process and where development to appropriate locations in the municipality is allocated; or as a site-specific proposal.

If the allocation of development to the rural area is part of the official plan development or review process a municipality should consider the following:

- Determining the housing needs for the population projected for the entire municipality (refer to the Population Projection Methodology);
- Assessing the range of housing types and affordability required to meet these needs;
- Examining opportunities to fulfil this need within settlement areas (on undeveloped land or through intensification) or as extensions to settlement areas;
- Determining how much and where development is appropriate in the rural area;

- Compatibility of the scale and design of the proposed development with the rural setting. This should include an evaluation of size, height, design and setback.

If a municipality is considering a site-specific development proposal in the rural area the following factors should be considered:

- Whether or not the proposal can be accommodated within any allocations already justified in the official plan (i.e., rural settlement areas);
- The current supply of residential land by type (this would include an inventory of vacant developable land, i.e. designated residential, as well as vacant lots of record). The consumption rate for these lots should also be considered; and
- The appropriateness of the scale and design to the proposed rural location.

Since rural areas are dominated by natural features and large areas of uninhabited and unbuilt landscapes, the policies for natural heritage protection (under goal A), as well as policies B13 and B14 should be considered. Planning for rural areas should encompass a comprehensive view of all land uses within the municipality and how they relate and interact. Consequently, when considering development in rural areas, municipalities should take care to determine the impact on natural features and functions and agricultural operations.

Policy B10 a) ii

"In *rural areas* within a municipality:

- a) Residential *development₁* that is not an extension of a *settlement area* will be permitted only if the following conditions are met:
 - ii) the reasonably anticipated effects of *development₁* on *rural and recreational characteristics* are assessed and are acceptable;"

Policy Explanation

Reasonably anticipated effects of development include both the immediate impacts of the proposed development and impacts that may occur over a longer time horizon. In addition, the impact of the proposed development should be considered in the context of what has or may

occur in the surrounding area.

Municipalities should consider identifying the rural and recreational characteristics that are unique to the area. This may include the prevalence of natural features, the visual landscape (i.e., vistas), the scale, height and density of development, specific cultural or historic features that are unique to the area and the types of land uses in the rural area. This may be done as part of an official plan exercise. Once it is done, proposals for development may be more easily assessed for their impact on these characteristics.

Implementation

The following considerations should be addressed to provide guidance on the nature of reasonably anticipated effects of development on these rural and recreational characteristics:

1. The impact of the proposed development on natural features and functions. Policy A1.2 requires that significant natural features be protected. When considering development on or adjacent to these features, potential impacts should be evaluated.
2. The impacts on cultural heritage resources. Development on or adjacent to cultural heritage resources should be sensitive to the resources.
3. The impacts on resource activities in the rural area, such as agricultural operations and resource extraction (for example, aggregates, forestry, mining).
4. Whether or not the proposed development would detract from the role of nearby settlement areas(s) as a rural service centre.

Policy B10 a) iii

"In *rural areas* within a municipality:

a) Residential *development*₁ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:

iii) the long-term suitability of the site for *public communal services* or *individual on-site systems* is demonstrated;"

Policy Explanation

This policy is an extension of policy B7 which stresses the integration of service and infrastructure considerations into the land use planning process. Policy B7 says that municipalities will plan servicing facilities which maintain or enhance the quality of the natural environment to accommodate expected growth. In areas where full municipal sewage and water services are not provided there are some options: where site conditions permit, multi-lot development should be serviced by public communal services. Where the use of public communal services is not feasible and where site conditions permit, development may be serviced by individual on-site systems. Development on partial services will be discouraged, except in the situation where a public communal service is required to address remediation of failed individual on-site systems.

Implementation

Please refer to the implementation guideline for policy B7.

Policy B10 a) iv

"In *rural areas* within a municipality:

- a) Residential *development*₁ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:
 - iv) the long-term public costs of *infrastructure*, *public services* and *public service facilities* are assessed and are acceptable."

Policy Explanation

In the short term, the servicing costs for rural residential development may appear reasonable and manageable. In the long term however, a municipality will likely be faced with demands for new or improved services. Rural residential development often brings demands for more urban types of services such as garbage collection, improved roads, libraries, schools, school bussing and recreational facilities. Given the scattered nature of the development, funding such services could be more difficult than in urban areas. Even if the residential development is a cottage or winter retreat, the potential for conversion to a year round use exists. Rural residential development can also detract from development in the planned settlement areas of the municipality or nearby areas. If this occurs, it may create future financial burdens for a municipality as the pressure for more

"year round" services increases. These types of development can be a long term financial burden for a municipality, that taxes often do not fully compensate. Wherever feasible the long term costs of providing these services should be determined and balanced against the assessed benefits of the proposed development.

Implementation

Policy B7 and its related implementation guideline provide further details relating to the provision of water and sewage treatment services and facilities. There is additional information in the following technical guidelines issued by the Ministry of Environment and Energy:

Guideline for Private Wells: Water Supply Assessment; and

Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment for Individual On-site Services.

Consultation with providers of other infrastructure components (waste management systems, electric power, communications, transit and transportation corridors and facilities and oil and gas pipelines and associated facilities) to assess costs should be part of the planning process.

For a more detailed discussion of other public services and facilities refer to policy B1. The implementation guideline for policy B1 provides a list of agencies to contact.

Policy B10 b)

Policy B10 b) i

"In *rural areas* within a municipality:

b) Recreational and tourism *development*₃ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:

- i) the type and scale of *development*₃ is justified based on the demand for the *development*₃ and the amount of suitable land available for the proposed type of *development*₃ in *settlement areas* within the municipality;"

Policy Explanation

The intent of this policy is to restrict recreational and tourism development in the rural area for the same reasons that other types of development are restricted: that is, because it is more efficient and cheaper to service development within settlement areas; restricting development in rural areas will protect the environment and the rural characteristics of the area; and directing development to settlement areas will enhance their viability as rural service centres. The policy does recognize, however, that there are circumstances when recreational and tourism development may be justified in rural areas.

As is the case for residential development, a municipality may wish to identify some lands in the rural areas for recreational and tourism uses. Such a designation could be used to create tourism and recreational opportunities. For example, it could build upon other features and facilities already present in the community. It can also be used in conjunction with other policies such as B13 (Conservation of Significant Landscapes) and B14 (Conservation of Cultural Heritage Resources), to help enhance the community's amenities, and its attractiveness to visitors and potential investors. Such strategic decisions might be part of a community's social and economic strategy as described in policy B4, and delineated, for example, in a Recreation Master Plan or tourism development studies.

Whether it is a specific development proposal or designation as part of official plan preparation, demand and land requirements should be taken into consideration in the justification of recreational and tourism developments. These items should be considered in a municipality's decision-making process, along with other factors such as the compatibility of the development with the rural and recreational characteristics of the area and the development's potential impact on the existing market.

Determining demand for recreational and tourism developments may be somewhat different from the process for other land uses. For example, certain types of recreational and tourism developments may generate market demand from a larger geographic area than residential or commercial development. Broad market conditions play a significant role in the justification.

Since the nature and scale of tourism and recreational developments can vary considerably, it is difficult to establish universal criteria. Generally, however, in cases where the proposed development responds to demonstrated market demand and where it is similar to or complements existing uses, the development will likely be more compatible with existing activities in a municipality and produce desirable benefits. Other developments, especially large-scale developments where facilities are created to generate demand, might need to be integrated within the community through a conscious and planned strategy, in order to maximize benefits to the community and minimize any potential negative effects.

Land requirements for recreational and tourism developments may also be very different for this type of land use, and might vary for specific recreational and tourism proposals. Some types of developments may need to be located in a rural area because they require large parcels of land

(e.g., country resorts or golf courses) while others might find their rightful place in the rural area simply because of the nature of the activity (e.g., nature trail or campground) or the need to be close to a resource (e.g., lake or river, mountain, forest). In all cases, however, the amount of land should be relative to the specific use and the desired tourism or recreational experience intended.

Implementation

The following factors should be considered in determining the demand and land requirements:

1. Whether there is sufficient demand for this development;
2. The impact on the current supply of land for recreational and tourism uses;
3. The availability of alternative sites, either in settlement areas or in rural areas (is this really the appropriate site?);
4. The special circumstances that make it necessary or desirable to locate this use in a rural area (for example, proximity and relationship to the resource, such as a ski hill);
5. The appropriateness of the scale and design of the proposed development to the rural setting;
6. Activities in all the lands in the market area, even outside the municipality, to the extent feasible, since recreational and tourism development often draw on a market beyond municipal boundaries;
7. The fit with the municipality's economic development strategy;
8. Site suitability; and
9. Environment and land use compatibility.

Policy B10 b) ii

"In *rural areas* within a municipality:

- b) Recreational and tourism *development*₃ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:
 - ii) the reasonably anticipated effects of *development*₃ on *rural and recreational characteristics* and on natural features and functions are assessed and are acceptable;"

Policy Explanation

The anticipated effects of recreational and tourism development may be quite different from the impacts of other types of development. Its potential impact on the natural resources and the environment varies according to the nature of the proposed development. Due to the often close relationship between recreational and tourism developments and natural features and functions (e.g., lakes, streams or hillsides) the importance of assessing impacts on natural features and functions is highlighted in the policy. The Natural Heritage, Environmental Protection and Hazard Policies and guidelines provide more guidance on how to address these matters.

Implementation

Similar to policy B10 a) ii municipalities should determine the specific rural and recreational characteristics that are relevant to their municipality (refer to implementation section for policy B10 a) ii).

Specific factors relating to the impact of the recreational or tourism development proposal should be assessed:

1. Since a recreational or tourism development may draw people from a wide area, it may have a greater impact on traffic and road usage. Also, depending on the scale and pattern of usage there may be some periods of intense use which may generate more severe impacts (for example, seasonal or weekend usage);
2. Recreational or tourism development is often related to a natural resource. Therefore, it often has a significant impact on the environment and natural resources (i.e., ski slopes and erosion, and golf courses and ground water);
3. Conversely, there is a need to ensure that adjacent land uses and their resulting impacts (dust, traffic, etc.) do not negatively impact prime tourist/recreation land or sites and that sufficient buffering is in place to preserve the quality of the tourist/recreational experience; and
4. Other common types of tourism development are associated with human-made features such as theme parks or heritage or cultural facilities. These can impact on the neighbouring areas as well as the infrastructure and servicing facilities in an area. Municipalities should be prepared to ensure that there will be no negative short or long term impacts on such facilities.

Policy B10 b) iii

"In *rural areas* within a municipality:

b) Recreational and tourism *development*₃ that is not an extension of a *settlement area* will be permitted only if the following conditions are met:

iii) the long - term suitability of the site for *public communal services* or *individual on-site systems* to accommodate proposed uses is demonstrated;"

Policy Explanation

Please refer to the explanation section for policy B10 a) iii.

Implementation

Please refer to the implementation guideline for policy B7.

Policy B10 b) iv

"In *rural areas* within a municipality:

b) Recreational and tourism *development*₃ that is not an extension of a *settlement area* will only be permitted if the following conditions are met:

iv) the long-term public costs of *infrastructure*, *public services* and *public service facilities* are assessed and are acceptable."

Policy Explanation

Recreational and tourism developments may put additional pressures on the municipality in respect to certain services. In contrast to the demands of residential development, recreational and tourism developments usually do not create demand for schools, libraries or community centres unless a large workforce is required to operate the facility/facilities. Also, if an influx of residents is expected for employment at these facilities, the capacity for not only these hard services, but also for the above noted community services should be assessed and planned accordingly. However, for certain types of recreational and tourism development there may be demands for such services as road improvements, increased garbage collection, policing and fire protection. The need for expansion of these type of services may not be apparent immediately, but develop over time.

Implementation

Please refer to the implementation section for policy B10 b) iv.

Policy B10 c)

Policy B10 c) i

"In *rural areas* within municipality:

- c) Industrial, commercial and institutional *development*₃ should be directed to *settlement areas*, but small-scale industrial, commercial and institutional *development*₃ serving the needs of the rural and agricultural area will be permitted only if the following conditions are met:
 - i) the type and scale of *development*₃ is justified based on demand, the suitability of the use for location in *settlement areas* within the municipality, and where applicable, the municipality's economic development strategy;"

Policy Explanation

The objective of this policy is to direct industrial, commercial and institutional development to settlement areas, in order to maintain the vitality of existing settlement areas and at the same time maintain and protect the rural character of areas outside them. This type of approach also makes

more efficient use of infrastructure and public services which may be already available or made more efficiently available in settlement areas and are not necessarily efficiently available in rural areas.

Implementation

Before considering commercial development in rural areas, municipalities should consider the impact of the proposed development on the "downtown" or established commercial nodes within settlement areas. Will commercial development in the rural area have a detrimental effect on the viability of these established commercial nodes serving the same function? Similarly, for industrial development, development in the rural area may detract from existing or proposed industrial districts (or parks) within the municipality.

Proposals for small-scale industrial, commercial and institutional development should demonstrate that the scale and type of development is in fact based on serving the needs of the local rural and agricultural area. To illustrate: a local produce outlet that serves the rural or agricultural community is appropriate; but a retail store or centre would serve a much wider area, and should be located in a settlement area. The demand for the development must be based in the rural community.

Other examples of commercial and industrial development that serve rural needs include developments such as farm equipment dealerships or a garden centres. The suitability of the use may be determined by evaluating how the use supports on-going rural activities and regard for broader impacts on natural features, functions and agricultural operations. However, municipalities may wish to locate these uses in nearby hamlets or villages, to strengthen the role of the rural service centre.

If a municipality has an economic development strategy, this would provide some direction on the kind of commercial and industrial development that is considered appropriate for the rural area of the municipality.

Even if the use is agriculturally related, only those industrial, commercial and institutional developments that are permitted in goal D would be permitted in the prime agricultural area. In other words, this policy does not take precedence over the policies of goal D as policy B10 applies only to rural lands.

Policy B10 c) ii

"In *rural areas* within a municipality:

- c) Industrial, commercial and institutional *development*₃ should be directed to *settlement areas*, but small-scale industrial, commercial and institutional *development*₃ serving the needs of the rural and agricultural area will be permitted only if the following conditions are met:
 - ii) the reasonably anticipated effects of *development*₃ on *rural and recreational characteristics* and on natural features and functions are assessed and are acceptable;"

Policy Explanation

The concern for reasonably anticipated effects and the rural and recreational characteristics and natural features and functions is reiterated for all types of development in rural areas. As noted in the discussion of policy B10 a) ii, municipalities should determine the unique rural and recreational characteristics of their area. Industrial, commercial and institutional land uses are generally not regarded as rural in character. The policy intent is to protect the rural character of an area by restricting industrial, commercial and institutional developments to those which will not have a negative impact. The municipality should determine the key rural and recreational characteristics that are applicable and the types of development that meet the policy objectives.

The impact on natural features and functions is important, particularly for industrial developments. For further guidance refer to policies under goals A1 to A3, and their related implementation guidelines.

Implementation

Refer to the implementation section for policy B10 a) ii.

Policy B10 c) iii

"In *rural areas* within a municipality:

- c) Industrial, commercial and institutional *development*₃ should be directed to *settlement areas*, but small-scale industrial, commercial and institutional *development*₃ serving the needs of the rural and agricultural area will be permitted only if the following conditions are met:
 - iii) the long-term suitability of the site for *public communal services* or *individual on-site systems* to accommodate the use is demonstrated;"

Policy Explanation

Please refer to the explanation for policy B10 a) iii, above.

Implementation

Please refer to the implementation guideline for policy B7.

Policy B10 c) iv

"In *rural areas* within a municipality:

- c) Industrial, commercial and institutional *development*₃ should be directed to *settlement areas*, but small-scale industrial, commercial and institutional *development*₃ serving the needs of the rural and agricultural area will be permitted if the following conditions are met:
 - iv) the long-term public costs of *infrastructure*, *public services* and *public service facilities* are assessed and are acceptable."

Policy Explanation

Industrial, commercial and institutional development in rural areas may present some new and additional demands on infrastructure, public services and public service facilities. The demands for services will be different, in that the demands are derived from residential or recreational and tourism development. Industrial, commercial and institutional development may require additional investment in roads, garbage collection and policing, or an additional strain on the water and sewage treatment facilities. The intent of the policy is to ensure that these costs are accounted for and considered as part of the long term impact of this type of development.

Implementation

Please refer to the implementation section for policy B10 a) iv.

Policy B11 a)

"In territory without municipal organization:

a) New permanent town sites will not be permitted."

Policy Explanation

The policy states that no new permanent town sites will be permitted in territory without municipal organization. The rationale for this policy is to direct development to locations where there is a municipal structure to support the provision of public services. Often the reason for creating a new town site is the initiation of a new resource-based industry. Many of these types of operations have a limited life span. Once the resource activity ceases, the town site is no longer economically viable. Given this situation, significant investment in the infrastructure required to support a new town site is not a cost effective investment.

Implementation

Large-scale development related to the resource industry should be directed to municipally organized settlement areas to ensure an efficient and effective use of existing or new infrastructure and an appropriate level of community services. However, some industrial developments must locate at the source of the raw materials and they can generate secondary development of the nature of a town site. For example, a mine or forest operation may have to locate outside a settlement area and on lands in unorganized territory. These operations may have employees who will require housing and community facilities. However, these operations can also be temporary,

leaving essentially what are ghost towns when they stop production. To avoid this and to support existing settlement areas, uses other than those directly associated with the industrial operation should be located in existing settlements. These secondary uses could include housing, schools, commercial and other industrial uses.

In a few cases, this may not be possible due to the very remote location of the resource site (i.e., areas remotely removed from any road access where fly in access is the only means of access). In such instances, it may be appropriate to consider temporary accommodation for the workers at the site. An example of this kind of situation is found at Detour Lake in northern Ontario. However, the accommodation should be designed to be dismantled.

Policy B11 b)

Policy B11 b) i

"In territory without municipal organization:

- b) *Development*₁ will generally be restricted. Permanent residential *development*₁ will not be permitted where opportunities for permanent residential *development*₁ exist in nearby municipalities.

*Development*₁ will be permitted only if:

- i) it is directly related to a resource, and proximity to the resource is necessary;"

Policy Explanation

Permanent residents require a wide range of "urban type" services such as schools, libraries, hospitals, road maintenance, and parks. These services are best provided in settlement areas in municipalities. Municipalities have the ability to tax to pay for the provision of many of these services. Therefore, permanent residential development should not be permitted where there are lots or units available for development in nearby municipalities. Even if a municipality has servicing constraints, it is insufficient reason to approve development in unorganized territories.

This policy does not, however, preclude the construction of a permanent residence on a vacant lot of record where it conforms to a minister's zoning order or planning board zoning by-law, or where there is no local zoning.

Municipalities can also zone land and issue building permits. In unorganized territories there is little to no building code enforcement. Therefore, in a municipality there is a much higher degree of enforcement of building standards and protection from incompatible uses.

A common issue that arises in unorganized territory is the conversion of a seasonal use such as a cottage to a year-round (permanent residential) use. This increases the potential for other seasonal uses to convert and increases the demands on services, yet there is no municipality to support those services or help control these conversions. This can result in pressures for the province to provide "municipal type" levels of service, or result in emergency hazards where residents living year round in the unorganized territory do not have adequate access to nearby fire- or health-related services. To avoid problems related to conversion in the future, in unorganized areas where conversions are or have occurred, any proposal for seasonal residential development should be evaluated as year round (permanent) residential development.

Resource-based activities such as mining and forestry operations can often be found in unorganized territory. While new townsites are not permitted when a new resource location is discovered, it is recognized that a limited amount of development is necessary to support the resource-based industry. This development may include industrial, commercial or limited residential uses.

Implementation

Examples of permitted resource-related development are water-based seasonal residences, tourist-related development such as lodges or ski facilities, extractive operations on or adjacent to aggregate or mineral deposits, farm-related uses in agricultural areas, and forestry related uses in forested areas. In all cases, however the long term natural features and functions and servicing arrangement should be assessed and acceptable. For example, access to new lots should be guaranteed and not result in environmental damage. In most cases, access should be by way of a publicly owned and maintained road, such as a Local Roads Board road. Private road access can seriously contribute to emergency hazard problems for residents such as inaccessibility to fire service or emergency vehicle access, and may not guarantee the rights of access to present and future residents using the road.

Policy B11 b) ii

"In territory without municipal organization:

- b) *Development₁* will generally be restricted. Permanent residential *development₁* will not be permitted where opportunities for permanent residential *development₁* exist in nearby municipalities.

Development₁ will be permitted only if:

- ii) it is appropriate to specific native, aboriginal or metis community needs;"

Policy Explanation

As a number of the province's native, aboriginal and metis communities are located in unorganized territory, the restrictions on development that generally apply in unorganized territory would severely limit native communities in northern Ontario. In order to accommodate the different and unique characteristics and needs of these communities, policy B11 allows for development which specifically serves their needs.

Implementation

To determine if development is appropriate to specific native, aboriginal or metis community needs, the proponents should provide an assessment that shows:

- the housing and service needs of the community, based on population projections for the community;
- the cultural values tied to the area;
- the historical importance of the area if it is a traditional settlement area for the community;
- the relationship of the community to the resources of the area;
- potential improvements to quality of life and economic and community development as a result of the proposal;
- potential impacts on the environment and the proposed servicing arrangements for the proposal; and,

- any other specific community needs.

If the community itself is not the proponent, this assessment should be done in consultation with the community.

Policy B11 b) iii

"In territory without municipal organization:

- b) *Development₁* will generally be restricted. Permanent residential *development₁* will not be permitted where opportunities for permanent residential *development₁* exist in nearby municipalities.

Development₁ will be permitted only if:

- iii) it is within or adjacent to a built-up area in the territory without municipal organization;"

Policy Explanation

The rationale for this policy is to allow limited development in unorganized territory where there is an opportunity to direct this development to an existing built-up area that has some significance in the area. For example, there may be a small, unincorporated node or community, known locally as an historic settlement area, where there is a mix of residences and some community facilities such as a church or store.

Implementation

In some circumstances, it may be appropriate to permit limited development (including permanent residences) as infill, or where development is a logical extension that immediately abuts the built-up area (unless crossing a human-made or physical feature). The development should be of a scale that retains the character of the area and will not result in the need for more services normally associated with a municipality.

However, in instances where a built-up area is located adjacent to a municipality, and especially a settlement area, development should not be promoted in the built-up area. It is preferable to locate in settlement areas, and at least within municipalities.

Policy B11 b) iv

In territory without municipal organization:

- b) *Development₁* will generally be restricted. Permanent residential *development₁* will not be permitted where opportunities for permanent residential *development₁* exist in nearby municipalities.

Development₁ will be permitted only if:

- iv) the long-term suitability of the site for individual on-site systems has been demonstrated. *Development₁* will be permitted on *public communal services* only in the situation where communal services are required to address remediation of failed *individual on-site systems*.

Policy Explanation

Please refer to the policy explanation for policy B10 a) iii, above.

Implementation

The long term suitability of a site for individual on-site systems should be assessed by the authority that issues the Certificate of Approvals and permits for such facilities. This is either the Ministry of Environment and Energy or its designated local health unit.

All new lots should be able to support a Class 4 septic tank and tile bed system. Lots proposing wells must be able to accommodate both the Class 4 system and the well in a way that ensures there is no cross-contamination of the ground water between the two systems. Also, many cottage properties in the unorganized areas propose to receive their water from an adjacent water body. This water must be potable for human consumption.

Depending on the geographic area within the unorganized area, the local health unit and/or the Ministry of the Environment and Energy must look at several factors such as lot size, amount of bedrock, slope of the land etc. to determine if individual on-site systems can be accommodated. Consultation and concurrence with these agencies should be received prior to any approvals, to ensure proponents do not spend unnecessary money developing or preparing their proposed sites, only to learn later that they do not meet the standards of these agencies. In some cases, studies and testing may be required by the proponents for these agencies to show how the proposed

systems will meet provincial standards. As there is no municipal body, private piped water and sewer or communal systems are not permitted.

Appendix

Glossary

The following terms are defined in the Comprehensive Set of Policy Statements, and are used in policies B8 to B11:

Built-up areas:

means areas within hamlets, villages, towns or cities where development is concentrated. It includes existing development, as well as vacant registered and draft approved lots.

Development₁:

means a new lot and/or an increase in the number of permitted units on a lot.

Development₃:

means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill.

The first definition of development applies to all of the B8 to B11 policies with the exception of B10 (b) which deals with recreational and tourism development. For the purposes of this portion of the policies the third definition of development applies.

Functions:

means, in regard to natural features and functions, the natural processes, products or services that species and non-living environments provide or perform within and between ecosystems and landscapes.

Infrastructure:

means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Institutional uses:

means those uses associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools where there is a significant threat to the safe evacuation of the sick, the elderly, the physically challenged or the young during an emergency as a result of flooding, failure of floodproofing measures or protection works, or erosion.

Intensification₁:

means the development of a property or site at a higher density than previously existed. It includes: redevelopment or development within existing communities; infill development, or development on vacant lots within a built-up area; conversion, or the change of use of an existing structure or land use; and the creation of apartments or other accommodation in houses.

Intensification₂:

means the creation of new dwelling units in existing buildings or on previously developed, serviced land and includes redevelopment and small-scale intensification.

Mix of uses:

means a variety of uses in a building or community in close proximity, possible including housing, recreational, and commercial, institutional, industrial, or other employment uses.

Prime agricultural area:

means an area where prime agricultural land predominates. Prime agricultural areas may also be identified through an alternative land-evaluation system approved by the Ministry of Agriculture and Food.

Prime agricultural land:

means land that includes specialty crop lands and/or Canada Land Inventory Classes 1,2, and 3 agricultural soils.

Public service facilities:

means buildings and structures for the provision of public services, but does not include infrastructure.

Public services:

means programs and services provided or subsidized by a government or other public body. Examples include social assistance, police and fire protection, health and educational programs, and cultural services.

Redevelopment:

means the creation of new development units on land previously used for residential or non-residential purposes in existing communities where demolition of the previous structure is to take place or has taken place.

Reserve water and sewage plant capacity:

means design capacity in a centralised water and waste water treatment facility which is not yet committed to existing or approved development.

Rural and recreational characteristics:

means elements of a municipality's physical, environmental, economic, social, or cultural fabric through which its identity or uniqueness has evolved and is defined. Examples include historic settlement patterns, natural or cultural resources, waterways, and distinctive landscapes or vistas.

Rural areas:

means lands in the rural area which are not prime agricultural areas.

Settlement areas:

means built-up areas and that surrounding land which has been designated for development over the long-term planning horizon. In some cases, the settlement areas may be no larger than the built-up area.

*Sewage and water systems***Full municipal sewage and water services:**

means piped sewage and water services that are connected to a centralized water and waste water treatment facility and provided by a municipality or other public authority.

Public communal services:

means sewage works and sewage systems, and water works that provide for the distribution, collection or treatment of sewage or water but which:

- are not connected to full municipal sewage and water services;
- are for the common use of more than five residential units/lots; and
- are owned, operated, and managed by either:
 - the municipality; or
 - another public body; or
 - where ownership by a municipality or another public body cannot be achieved, by a condominium corporation or single owner through a responsibility agreement with the municipality or public body, which requires municipal/public body assumption of the communal services in the event of default.

Individual on-site systems:

means individual autonomous water supply and sewage disposal systems, that are owned operated and managed by the owner of the property upon which the system is located and which do not serve more than five residential units/lots.

Partial services:

means connection to one public communal or full municipal service where the other connection will be to an individual on-site system.

Small-scale intensification:

means residential intensification which adds dwelling units without redevelopment and includes infill; rooming, boarding and lodging houses; and apartments in houses.

Specialty crop land:

means lands where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil lands are predominantly grown, usually resulting from:

- soils that have suitability to produce specialty crops, or lands that are subject to special climate conditions, or a combination of both; and/or
- a combination of farmers skilled in the production of specialty crops, and of capital investment in related facilities and services to produce, store, or process specialty crops.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Access to Public Land and Water Bodies

Implementation Guideline for **Policy B12**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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1

INTRODUCTION

Recreation is very important for quality of life, and Ontario's land and water base has the potential for providing a wide range of recreational opportunities to residents.

2

POLICY

Explanation and Implementation Approaches

Policy B12 states that:

"Reasonable public access to *public land* and water bodies should be maintained or provided."

Policy Explanation

This policy applies to public land and to water bodies. Public land is a defined term in the policy statements. It means "lands owned by a public body, but does not include crown lands or "public lands" as defined in the *Public Lands Act*." The *Public Lands Act* applies to unpatented lands and is administered by the Ministry of Natural Resources. However, lands which are not subject to the *Public Lands Act* but which are owned by a municipality, a local board, or by a ministry, department, board, commission, agency, authority or official of the provincial or federal government, and which are subject to applications under the *Planning Act*, are covered by this policy.

The policy states that reasonable public access to these areas should be maintained or provided. Reasonable access is access which is appropriate to the site. It may include a wide range of activities such as boat access, docking, fishing, beach access, hiking, or simply quiet enjoyment. This does not mean uncontrolled access, or even universal access.

The type of access is often determined by the sensitivity of the site or of its surroundings. In some cases, environmental factors may justify restricting access to a site for the greater public good. For example, an area of natural and scientific interest or an endangered species habitat located on a publicly owned site may be so sensitive that access by the public would destroy the feature. Similarly, it may be appropriate to limit further public access to a water body which is nearing or has reached its capacity to sustain further activity.

Possible Implementation Approaches

Official Plans

As part of the process for preparing official plans, planning authorities should identify public lands, and the location of any existing public access points on water bodies. As part of this process, discussions with affected public bodies will assist the planning authority in determining what land uses are appropriate on these sites and whether and under what circumstances public access is to be permitted.

Water bodies should be studied to determine how much additional traffic can be accommodated while still protecting water quality. It is suggested that provision for access by the public should be factored into decisions regarding how much new development can be permitted adjacent to a specific water body. It may not be appropriate to approve so much development adjacent to a water body that access by the public would have to be limited.

Development Applications

The official plan could designate future sites for parkland use in areas where new recreational uses are to be permitted by consent or plan of subdivision. The conceptual identification of proposed new public access points on the official plan schedule would assist in the evaluation of individual applications for lot creation adjacent to water bodies.

Shoreline Road Allowances

Many patents which created lots from crown land reserved a shoreline road allowance in the ownership of the crown. Approval of the Minister of Municipal Affairs or his delegate is required before these road allowances can be closed and sold to adjacent land owners. The objective is to ensure that public access to the water is maintained, where appropriate. Decisions regarding applications to close and sell these road allowances would be much easier to evaluate if the official plan identified existing and proposed access points, and contained policies regarding public access points for these areas.

Municipal Acquisition of Access Points

Municipalities may choose to purchase or accept access points as part of their open space acquisition program.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Significant Landscapes, Vistas and Ridge-Lines

Implementation Guideline for **Policy B13**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with

the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

A technical manual is being developed to accompany the implementation guideline package. The intention is for this technical manual to serve as a guide, providing municipalities, proponents and other interested groups with a package of tools that can assist in the identification, decision-making and implementation processes associated with policy B13.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF
CONTENTS

1 Introduction 1

2 Policy Explanation and Implementation 1

 2.1 Policy Explanation 2

 Interpretation of Policy B13 2

 2.2 Possible Implementation Approaches 3

 Identification and Selection Criteria 3

 Landscape, Vista, and Ridge-line Inventories 4

 Policy B13 and Municipal Official Plans 5

 2.3 Application of Policy B13 6

 Interim Measures 7

Appendix

A Glossary 8

1

INTRODUCTION

The purpose of this implementation guideline is to assist decision-makers and others interested in planning with the implementation of policy B13 of the Comprehensive Set of Policy Statements. This policy addresses the conservation of landscapes, vistas and ridge-lines.

Landscapes, vistas and ridge-lines make an important contribution to the scenic attraction of many local areas and communities. They are important visual landmarks for defining a sense of place and character, as well as enhance a community's amenities and attractiveness to visitors and potential investors. A community can in turn take advantage of these features to create tourism and recreational opportunities leading to personal enrichment, healthier lifestyles and economic development.

The need to conserve these aspects of significant landscapes, vistas and ridge-lines is reflected in provincial initiatives such as the planning reforms and provincial policy statements, which encourage municipalities to consider their importance in the planning process.

2

POLICY

Explanation and Implementation

The specific policy for the conservation of landscapes, vistas and ridge-lines is addressed in B13, which states that:

"Policies and decisions regarding *development*, and *infrastructure* should conserve significant landscapes, vistas and ridge-lines."

Definitions of terms from the policy statements, as well as for other terms used in this guideline, may be found in the glossary. Please see Appendix A.

2.1

Policy Explanation

The conservation of significant landscapes, vistas and ridge-lines can also occur in private and public land use developments reviewed under other pieces of legislation, such as the *Environmental Assessment Act* and the *Niagara Escarpment Planning and Development Act*. Policy B13 is not intended to supersede this consideration in other legislation, but is intended to provide a means of considering minimum conservation levels, when planning issues are being addressed under the *Planning Act* by municipalities and/or approval authorities.

Policy B13 is to be applied in conjunction with, and does not take precedence over, the other policy statements developed under the Act. Policy B13 should be regarded as a minimum, and a municipality may go beyond this if it wishes, unless conflicts with other policy statements arise. It should be noted that policies B13 and B14 of the planning reforms both address the conservation of landscapes. Policy B13 specifically addresses the conservation of landscapes comprised mainly of natural and cultural features and their large scale panoramic views, whereas policy B14 addresses "cultural heritage landscapes," which are landscapes that clearly exhibit the result of human activity on the landscape. The conservation of cultural heritage landscapes is addressed under the implementation guideline policies B14 and B15: Cultural Heritage Resources.

Interpretation of Policy B13

Policy B13 provides for the conservation of significant landscapes, vistas or ridge-lines within the planning process. In applying B13, it is the "view" and the collective sum of the features making up a landscape that makes it more significant than its individual features. It is this overall integrity and view that needs to be conserved. However, individual features are also conserved indirectly by maintaining the integrity of the landscape, and through the recognition of the importance individual components play in defining the significance of a landscape.

The view of the landscape to be conserved will be one which is normally recognised as being important and accessible to the community, rather than a view only a few could enjoy, such as from private property. Thus views from publicly accessible scenic look-outs and observation points are prime candidates for conservation. The importance of the view also should be determined from the reference point of a person in a typical position (e.g., sitting, standing, walking, driving), at ground level or from an easily accessible elevated or lower vantage point, rather than from an aircraft, or from a very distant point using a telescope or binoculars.

Significant viewsheds can have both natural and cultural components. As a result, when considering the value of a landscape neither the natural or cultural components should take precedence over the other. Rather it is the unique blend of these components which is of interest. An example of this (although subject to separate legislation), is the Niagara Escarpment. This well known landscape contains a blend of natural and cultural components; the open landscape character of the face has been mostly achieved through the clearing of forest cover to develop farm fields. This could be defined as a cultural component, whereas the remaining wooded areas on the cuesta are natural components. Thus a goal of the Niagara Escarpment Plan which reflects this mix is the intent to "maintain the open landscape" of the Escarpment, and not have it revert to a totally forested state.

2.2

Possible Implementation Approaches

In all cases, the landscape, vista or ridge-line under consideration, as well as its view and publicly accessible points from which to enjoy that view, should have definable boundaries that can be identified on a map, preferably as a viewshed or "visual cone," which can be either a fairly narrow, enclosed vista, or a wide, panoramic view. Once mapped, the significance of the landscape, and the importance and accessibility of its viewshed to the local community, can be considered in land use planning.

Identification and Selection Criteria

The identification of significant landscapes, vistas and ridge-lines should incorporate both the importance, scale and uniqueness of the resource, as well as the broad values that the community, rather than any one individual, has ascribed to it. Obviously, some landscapes, such as the more spectacular parts of the Niagara Escarpment, the hills of the Oak Ridges Moraine or the north shore of Lake Superior east of Thunder Bay, would clearly qualify for consideration under policy B13. On the other hand, isolated natural/cultural features, an open stretch of river shoreline, a levelled greenspace, or other limited landscape may or may not be of significance, depending on the value the local community attributes to that location, and the importance of maintaining its unique characteristics. For this reason, a specific list of significant landscapes, vistas and shorelines is not included here. Rather, municipalities should use a considerable degree of flexibility when considering a potentially significant landscape in the community, based on input from the community. This public consultation will help to identify those landscapes which are important in defining the municipality's own sense of place, character, and scenic attraction.

The following Selection Criteria can be used by the municipality when defining significant landscapes, vistas and ridge-lines, and their viewsheds, within its jurisdiction. Decisions made using these criteria should take into consideration the other provincial planning policies outlined in the planning reforms:

- (1) The importance of the landscape, vista or ridge-line, and the view of the resource, held by the local community, visitors, and the general public.
- (2) Accessibility - and the frequency of that access - to important vantage points from which to view the resource (e.g., availability of a look-out point versus private access only; landscape viewed by a heavily travelled roadway versus isolated hiking trail; etc.).
- (3) Rarity or representativeness of the resource (locally, regionally, provincially).
- (4) The components of the resource that make the view significant (e.g., does the mix of developed and natural environment have unique appeal; etc).
- (5) The association of the resource to important cultural beliefs, spiritual places, historical events, or symbolic images which help to define the community's identity.
- (6) Integrity of the resource (measuring the extent to which the unique characteristics of the resource have been degraded by past modifications, or the extent to which past modifications to the resource can be rehabilitated).
- (7) The importance of the resource and accessible views of the resource to factors such as tourism and recreation development or promotion.

Landscape, Vista, and Ridge-line Inventories

The ability of the municipality or other approval authority to identify and consider significant landscape, vista and ridge-line conservation concerns when making decisions regarding development applications and infrastructure projects will be greatly enhanced with the creation of an inventory of significant landscapes, their viewsheds, and publicly accessible views. Consequently, it is recommended that the municipality develop such inventories, and inventory areas that may have the potential of being significant. The selection criteria outlined above will assist in identifying landscapes of potential interest.

To be applicable in a land use planning context, it must be possible to map and document these inventories of landscapes and their viewshed areas, so that geographic limits can be defined. It would also be useful if the landscape, vista or ridge-line being mapped can be broken down into major units or components, which both contribute to, or detract from, the significance and appreciation of the resource (e.g., woodlots, open fields, parkland, tree-lines, shore-lines, and physical landmarks like escarpment brows, drumlins, waterfalls, etc.; and rock slides, washouts, industrial wasteland, power lines, intrusive buildings, etc.). Use of aerial photographs or detailed and appropriately scaled maps should greatly facilitate this documentation process.

The municipality should exercise flexibility in defining landscapes of interest and their level of significance, and the inventory created should reflect local values and interests. Where expertise is not available in-house to assist the municipality, informed members of the public, professional experts (e.g., landscape architects), and/or Ministry of Culture, Tourism and Recreation (MCTR) staff, can all assist the municipality in developing the inventory.

With mapped inventories of significant landscapes, vistas and ridge-lines, a municipality will be able to identify those areas of the community where policy B13 is applicable. In addition, conservation tools, such as sympathetic development screening criteria, can be created by the municipality for these specific locations. This approach will ultimately serve to define, early on in the planning process, what development can and cannot occur around these significant landscapes. Thus approval authority decisions would only have to consider specific conservation measures needed to reduce the visual impacts of those developments the municipality will allow around identified significant landscapes.

Policy B13 and Municipal Official Plans

The key means to address the conservation of significant landscape, vista and ridge-line viewsheds in the planning process will be through the adoption of policies within municipal official plans. Under the planning reforms, provincial interests, as defined in policies such as B13, must be reflected in the official plans of those municipalities which will have delegated or assigned approval authority. Once appropriate policies have been incorporated into the municipal official plan, an approval authority will be able to address landscape conservation issues as a part of an upfront land use planning process. This approach will be of critical benefit to the approval authority, development proponents, community and resources.

The following address the broad goals which should be reflected when incorporating the intent of policy B13 into municipal official plan policies:

- The municipality recognises the need to identify and conserve its significant landscapes, vistas and ridge-lines.
- The municipality will seek to conserve significant landscapes, vistas and ridge-lines by considering

the impact development and infrastructure decisions may have on these resources.

- The municipality may seek to protect significant landscapes, vistas and ridge-lines through effective identification and mapping, creation of sympathetic development screening criteria, and/or use of protective measures such as zoning by-law provisions, easements, open space designations, etc.

In addition, municipalities with already identified landscapes of provincial significance (e.g., Oak Ridges Moraine, Niagara Escarpment, etc.), should incorporate policies which address these areas, and complement existing protection measures, where appropriate.

Municipalities are also encouraged to develop guidelines and other planning tools to assist in the conservation of locally significant landscapes, vistas, and ridge-lines. A range of possible planning tools and conservation approaches that a municipality may consider using in order to address the intent of policy B13 will be offered in the Technical Manual which will accompany this guideline, when available.

2.3

Application of Policy B13

Policy B13 will primarily apply to decisions regarding larger scale developments and infrastructure projects, since these have the greater potential to negatively impact a significant landscape, vista or ridge-line. Such developments can include subdivisions, industrial parks or high rise complexes. On the other hand, smaller scale developments (e.g., severances, etc.) can also have a negative impact on a landscape. So, while these impacts will usually occur at a more gradual rate, resulting in incremental, rather than drastic change, the cumulative impact of multiple small scale developments on a significant landscape should be monitored and addressed by the municipality and approval authority. The municipality can address these cumulative impacts through the creation of long range planning tools like sympathetic development screening criteria.

In all cases, the municipality will need to consider how restrictions applying to development, in and around a significant landscape and its viewshed, will impact the social, cultural, economic and environmental viability of the community. Forward planning, through the inventory of significant landscapes, vistas and ridge-lines, is critical to ensure the effective application of policy B13. With an inventory, a municipality can adopt sympathetic development screening criteria which can help define the type and form of development that can proceed adjacent to or within a significant landscape, without adversely affecting it. Sample criteria, which can assist municipalities and approval authorities, are currently being developed as part of a Technical Manual which will eventually accompany this guideline.

Interim Measures

It is recognized that, particularly during the transitional period after the planning reforms are adopted, municipalities will need some time to develop policies, inventories of significant landscapes, and effective sympathetic development screening criteria and design guidelines. In the interim, it may be necessary to evaluate the potential significance of a landscape, when this has been identified by the community or the approval authority as a specific concern associated with a proposed development application.

To obtain the information necessary to make an informed decision, the municipality and/or approval authority may seek to have the landscape assessed, either as an internal study report if in-house expertise is available, or through the proponent providing a technical report, and/or through input supplied by informed and concerned members of the community. The intent of such a study should be to evaluate the significance of the landscape and recommend ways of ensuring that development can proceed while mitigating any negative impacts to the resource.

The municipality is encouraged to review the findings of the assessment with the proponent, community and other interested groups, to seek ways of addressing conservation concerns while still facilitating development. As no provincial standards currently exist which address adequate conservation measures for these resources, the municipality is encouraged to rely on the value the local community has ascribed to the resource, in order to determine appropriate conservation measures.

Appendix

Glossary

The following two terms are defined in the Comprehensive Set of Policy Statements:

Development₂:

means the construction, erection or placing of a building or structure; activities such as site grading, excavation, removal of topsoil or peat, and the placing and dumping of fill; drainage works, except for the maintenance of existing municipal and agricultural drains.

Infrastructure:

means the physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

The remaining terms are used in the text of this guideline, but are not terms defined in the policy statements:

Community:

A group of individuals bound together by common experiences, established through family connection, historical experience, ethnocultural origin, occupational or religious affiliation, or regional or geographical setting. It is a group that has a shared heritage which gives it cohesion.

Conserve:

The wise management of resources through their identification, protection, interpretation and use.

Development Application:

Formal applications which have been made to a municipal or provincial approval authority to allow for development on a specific parcel of land. This primarily includes subdivisions, condominiums, and consents.

This can also include parcels of land for which official plan or zoning by-law amendments have been submitted, and may not necessarily be subject to additional review.

Impacts to Landscapes (Adverse / Negative Impacts):

Anything which alters a landscape, vista or ridge-line, or its view, and causes its loss or destruction, diminishes its significance, or prevents its use or appreciation.

Landscapes:

The aggregation of natural and/or cultural components which contribute to defining the view around us. Important landscapes exhibit individual features or combinations of features which are commonly recognized as being of historic, aesthetic, cultural or scientific value. Landscapes provide important visual landmarks for defining community and place.

Landscape Documentation:

This includes the detailed background research on the land use histories of the resource and surrounding viewshed; photographic and measured drawings of the important elements of the resource, mapping the resource, and its setting and viewshed. This can also include documenting the community values ascribed to the resource in question.

Landscape Significance:

The relative significance of an important landscape, vista or ridge-line, held by a community, specific group, or the general public. The contribution of the resource and its viewshed to defining a visual landmark of place or community, of creating a scenic area of interest, or of revealing an area of natural beauty all help to define significance. The significance of a resource is also, in part, defined by its accessibility, and the availability of opportunities for it to be appreciated.

Mitigation:

The process of minimizing the adverse impacts to an identified landscape, vista or ridge-line, or the view of that resource. Mitigation can mean avoidance, documentation, and/or developing new observation points.

Observation Points:

A specific location or point of vantage from which an unimpeded view is available of a significant landscape, vista or ridge-line.

Official Plan:

A legal policy document prepared by a municipality and approved by the province and/or upper tier government, pursuant to the *Planning Act*. These documents outline broad land use policies and designations for a municipality, and the direction development will take within the municipality. Changes to official plans, to allow for site specific development to occur in a locale that would be contrary to the policies or designations laid out in the plan, or to alter or add new policies to the plan, are referred to as official plan amendments.

Ridge-Lines:

A distinctive, elevated feature on the landscape, seen from a distance, and created by the regular pattern of mostly natural components. The ridge-line can define the most distant landform on the horizon. Ridge-lines are created by vegetation patterns, features such as hills, or the brow of an escarpment.

Viewshed:

A viewshed encompasses the setting within which landscapes, vistas and ridge-lines are viewed. The viewshed includes the “view cone,” which is the view appreciated from a specific, unobstructed observation point.

Vista:

A framed or enclosed landform view, the viewshed of which is defined by a relatively close landform (“walls”), directing the view to a distant point (e.g., such as through a valley).

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Ontario's Heritage</i>	<i>1</i>
1.2	<i>The Planning Act and Planning Act Reforms</i>	<i>1</i>
1.3	<i>The Ontario Heritage Act and Land Use Planning</i>	<i>2</i>
2	Policy Explanation and Implementation	4
2.1	<i>Policy B14 - Cultural Heritage Landscapes and Built Heritage Resources</i>	<i>5</i>
2.2	<i>Policy B15 - Archaeological Resources</i>	<i>6</i>
2.3	<i>Cultural Heritage Resource Conservation at the Municipal Level</i>	<i>7</i>
	<i>Building Municipal Capacity for Cultural Resource Conservation</i>	<i>7</i>
	<i>Official Plans & Cultural Heritage Resource Policies</i>	<i>7</i>
	<i>Tools for Implementing Policy B14</i>	<i>9</i>
	<i>Inventories, Development Screening Criteria and Municipal Guidelines</i>	<i>9</i>
	<i>Tools for Implementing Policy B15</i>	<i>10</i>
	<i>Archaeological Resource Inventories</i>	<i>11</i>
	<i>Determining Areas of Archaeological Potential</i>	<i>11</i>
2.4	<i>Heritage Conservation at the Development Plans Level</i>	<i>13</i>
	<i>Cultural Landscapes and Built Heritage Resources</i>	<i>14</i>
	<i>Archaeological Resources</i>	<i>15</i>
	<i>When Archaeological Potential Has Been Determined</i>	<i>17</i>
	<i>Archaeological Resource Conservation Measures</i>	<i>18</i>
	Appendix	
A	<i>Glossary</i>	<i>19</i>

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Cultural Heritage Landscapes, Built Heritage Resources and Archaeological Resources

Implementation Guideline for Policies B14 and 15

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must

be followed as part of the planning approval process.

A technical manual is being developed to accompany the implementation guideline package. This manual is intended to complement the implementation guideline, by providing planning staff, LACACs, proponents, heritage resource consultants and other interested groups with particular details and methodologies related to the conservation of cultural heritage resources. As such, the manual provides technical information not presented here, and thus should be reviewed in conjunction with this guideline. Copies of this manual will be available directly from the Ministry of Culture, Tourism and Recreation.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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1

INTRODUCTION

This implementation guideline, developed by the Ministry of Culture, Tourism & Recreation (MCTR), outlines the means by which decision makers, development proponents and others can meet the requirements for the conservation of cultural heritage resources within the planning process, as addressed in policies B14 and 15 of the Comprehensive Set of Policy Statements. Further details on Ontario's cultural heritage resources, and on how best to address cultural heritage resource concerns within the planning process, can be found in the Technical Manual which will accompany this guideline.

1.1

Ontario's Heritage

Ontario's heritage represents everything that our society values and survives as a representation of our past, including archaeological sites, built resources, traditional use areas, cultural landscapes and shipwreck sites. However, Ontario's heritage is more than a simple record of the past. It expresses our collective experiences and values, from which we can derive a sense of identity and meaning, and find confidence about what we can achieve. It is thus vital to our success as a people to conserve, develop and appreciate our heritage.

The conservation of heritage resources can also enhance a community's amenities and attractiveness to visitors and potential investors. A community can also, in turn, take advantage of these resources to create recreational and tourism opportunities.

1.2

The Planning Act and Planning Act Reforms

In section 2(d) of the *Planning Act*, the conservation of Ontario's heritage is recognized as a matter of provincial interest. Provincial interests to be addressed in land use planning are also detailed within the Comprehensive Set of Policy Statements released under section 3 of the Act. These statements outline the policies intended to address the planning reform goals. A critical element of these reforms is the intention that decisions made under the *Planning Act* are to be consistent with the section 3 goals and policies.

As explained elsewhere in these compiled guidelines, and despite the various definitions provided by the Comprehensive Set of Policy Statements for "development," it is expected that the decisions made for all types of development will consider cultural heritage resource conservation needs arising from the potential impacts associated with those development activities. This is also detailed in section G1 (dealing with implementation and interpretation matters), which states: *"Policy statements will be implemented by municipalities and other planning jurisdictions through their decisions on official plans, subdivisions, consents, zoning by-laws, minor variances, and other planning matters"*.

Since every municipality contains cultural heritage resources of potential significance, and all land use activities have the potential to impact these resources, municipalities, approval authorities and development proponents need to address and conserve Ontario's heritage. Within a planning process, conserving cultural heritage resources means being able to address heritage resource concerns, while still enabling well-planned development. This goal is accomplished either by preserving the resource while development proceeds around it, or by fully documenting the resource in advance of development and construction disturbances.

1.3

The Ontario Heritage Act and Land Use Planning

The *Ontario Heritage Act* provides for the conservation of Ontario's cultural heritage resources, and regulates archaeological field activities through licensing. It enables municipalities to establish Local Architectural Conservancy Advisory Committees, and to review proposals for the demolition or alteration of designated heritage property. The Act also provides the Ministry of Culture, Tourism and Recreation with the mandate to determine policies and programs related to the provincial interest in conserving, protecting and promoting Ontario's heritage.

As a part of the planning process, municipalities and approval authorities will need to address the cultural heritage resource conservation requirements set out in policies B14 and B15. Under this same process, proponents will need to address specific resource concerns associated with particular development projects. MCTR will also play an on-going role in this land use planning process, by assisting and guiding municipalities, approval authorities and development proponents in meeting the relevant *Ontario Heritage Act* requirements associated with cultural heritage resource conservation.

There are three areas where this on-going role will occur. First, MCTR will review municipal official plan policies for cultural heritage resource conservation purposes. Secondly, MCTR staff will be available to provide municipalities and approval authorities with technical expertise and

assistance related to all aspects of conserving cultural heritage resources within the land use planning process.

This assistance can range from providing inventories of known heritage resources; training planning staff; assisting municipalities with the development of planning tools and policies that can aid in meeting the requirements of B14 and B15; to providing technical support in identifying heritage resource concerns associated with specific planning decisions. MCTR staff can also assist proponents in addressing development-specific resource concerns.

Thirdly, MCTR will provide an on-going regulatory function, arising from policy B15. Under the *Ontario Heritage Act*, all individuals conducting archaeological fieldwork in the province must hold a valid licence issued by the Minister of Culture, Tourism & Recreation. Licence reports are submitted as a condition of these licences, and are reviewed to ensure that the activities conducted meet *Ontario Heritage Act*, technical guideline and resource conservation requirements. Policy B15 recognizes that a central component of addressing archaeological conservation concerns within the reformed planning process will be the continuing need for archaeological field assessment of development lands. Municipalities and approval authorities will thus need to incorporate *Ontario Heritage Act* archaeological licensing and conservation requirements into this reformed planning process. This can best be accomplished through the coordination of MCTR's review of archaeological licence reports, with the development approval process.

The remainder of this guideline reviews the means by which municipalities and approval authorities can meet the intent of policies B14 and B15. In addition, this process is more fully detailed in the Technical Manual accompanying this guideline, entitled *Cultural Heritage Resource Conservation Within the Land Use Planning Process*. While the manual has been written primarily for those individuals who will be addressing cultural heritage resource concerns on a day-to-day basis (e.g., approval authority planning staff, planning consultants, development proponents, resource specialists), it is considered to be an essential component of this guideline, and should be reviewed by all those involved in implementing and meeting the intent of policies B14 and B15.

2

POLICY

Explanation and Implementation

The specific policies addressing cultural heritage resource conservation concerns are B14 and B15.

Policy B14 states that:

"Policies and decisions regarding *development₂* and *infrastructure* should conserve *significant cultural heritage landscapes* and *built heritage resources*."

Policy B15 goes on to add that:

"*Development₂* and *infrastructure* may be permitted on sites containing *significant archaeological resources* and on sites with medium and high potential if the site is studied and the *archaeological resources* are removed, catalogued and analyzed prior to *development₂* or construction. Where *significant archaeological resources* must be preserved on site to ensure their heritage integrity, only *development₂* and *infrastructure* which maintains the heritage integrity of the site will be permitted."

Definitions of terms in the policy statements, as well as for other terms used in the text, may be found in the glossary. Please see Appendix A.

2.1

Policy B14 Cultural Heritage Landscapes and Built Heritage Resources

Policy B14 addresses cultural heritage landscapes and built heritage resources. These resources provide an important physical record of the struggles and aspirations of past and present communities, contribute to the vibrancy, identity and character which can define local areas and communities, and convey a sense of place often lacking in newer communities.

Built heritage can include a wide range of resources, such as buildings, groups of buildings or historic settlements; structures such as fences, bridges, dams, etc.; and places such as marked cemeteries. The significance of these resources arises from their ability to contribute information, to add to our understanding of our heritage, and to be valued for their representation of that heritage. Significant built heritage resources reveal broad architectural, cultural, social, political, economic and/or military patterns of the province's history, or are associated with specific events, communities, institutions or individuals which have shaped that history.

Cultural heritage landscapes are a discrete aggregation of features on the land, created and left by people. It is this arrangement of features that is considered important, as it provides the contextual and spatial information necessary to preserve and interpret the understanding of important historical settings and changes to past patterns of land use. Three broad categories of cultural heritage landscape include (1) Historically designed landscapes such as gardens, parks and transportation corridors (e.g., Queens Park, Niagara Parkway, etc.); (2) Evolving landscapes such as rural areas, urban streetscapes and industrial complexes (e.g., rural Eramosa Township, Oak Ridges Moraine, Cobalt Mining Areas, etc.); and (3) Sacred landscapes, such as areas of worship and traditional use, burial grounds, battlefields, etc. (e.g., Manitou Mounds, Battle of Chippewa, Agawa Pictographs, etc.). These landscapes illustrate important, historically derived relationships between people and their surrounding environment. The importance of these resources to the local community, in reflecting the past and by providing a sense of place and identity to that community, is a critical means by which to measure the significance of a particular cultural heritage landscape.

Conserving built heritage resources and cultural heritage landscapes can mean preserving the resource intact. It can also mean preserving its setting, since much of the value, importance and appreciation of the resource arises from the unique characteristics within which it is found. Conservation can also mean allowing development to occur around and within the resource, as long as development is sympathetic to the historic and aesthetic qualities of the resource and setting. It can also mean incorporating and/or documenting the important heritage elements of the resource, prior to or as a part of a proposed development.

Identifying the significant built heritage resources and cultural heritage landscapes for a municipality, and determining appropriate levels of conservation for those resources, then, is a critical means of meeting the intent of policy B14.

2.2

Policy B15 Archaeological Resources

Policy B15 addresses archaeological resources. These resources include the physical remains and contextual setting of any structure, event, activity, place, cultural feature or object which, because of the passage of time, is on or below the surface of the land or water, and is important to understanding the history of a people or place. Ontario's archaeological heritage extends back some 11,000 years, to the time when people first were able to settle in this region. Subsequently, the archaeological record documents the rich and culturally diverse heritage of Ontario's Aboriginal communities, as well as the non-Aboriginal peoples who arrived and settled here in the past 400 years. Archaeology, then, is uniquely important in documenting the vast majority of Ontario's past, and in emphasizing the significance and antiquity of the role Aboriginal communities have played in shaping Ontario's heritage.

Archaeological resources consist of both individual objects (artifacts), and cultural features (settlement patterns) created as a result of the past habitation and activities carried out by the people who occupied a specific location. As well, the context within which these objects and features are found is a critical component in documenting and understanding the resource. Thus archaeological resources are extremely fragile records of the past, and disturbances, through land use activities or uncontrolled artifact collecting, will destroy the contribution that these resources can make to our understanding of the past. Additionally, most archaeological resources, located below ground, are not readily visible, and thus need to be sought out before they can be added to the archaeological record. Presently, only 5-10% of all archaeological resources in the province have been identified, so much of our future ability to understand and appreciate the past will come from finding and documenting these resources before they are destroyed.

It should also be noted that archaeological resources, particularly those dating from the last 2,000 years, can contain human burials. The requirements for properly caring for, disinterring and re-interring those remains are set out in the *Cemeteries Act* (RSO 1990). These requirements are complex, lengthy, and involve, in the case of Aboriginal remains, the negotiation with a First Nation to determine an appropriate disposition agreement. As such, any human interment issues for a particular archaeological resource should be identified as early in the planning process as is possible.

All archaeological resources are initially considered significant, in recognition of their fragile, non-renewable nature, the potential information they hold for understanding Ontario's past, and

the value this information will be to future generations. However, once a particular archaeological resource has been identified and assessed, the degree to which it can contribute to our understanding of the past will determine its relative level of significance and thus the appropriate level of conservation.

Also, it is important to realize that the majority of archaeological resources conserved within the land use planning process represent an important part of the heritage of Ontario's Aboriginal peoples. Thus, where appropriate, the interests of First Nations, as related to decisions affecting their heritage, should be recognized in the land use planning process. Opportunities for local Aboriginal communities to comment on decisions effecting those archaeological resources of importance to that community should be provided.

Given the above, it is important that Ontario's archaeological heritage, and the need to conserve that heritage, is properly planned for in development decisions, which is the intent of policy B15. The subsequent sections of this guideline propose the ways in which approval authorities and development proponents can achieve this intent.

2.3

Cultural Heritage Resource Conservation at the Municipal Level

Building Municipal Capacity for Cultural Resource Conservation

While the *Ontario Heritage Act* provides both the province and municipalities with responsibilities for the conservation of cultural heritage resources, those municipalities with delegated or assigned approval authority under the *Planning Act* will assume a lead responsibility for cultural heritage resource conservation in the local planning process. The policies, tools and process available to the municipality to meet this responsibility are outlined below.

Official Plans & Cultural Heritage Resource Policies

A critical requirement set out in the planning reforms is the need for all municipalities (planning authorities) to develop official plan policies which will be consistent with the goals and policies set out by the province. Since cultural heritage resources are found in all municipalities, are non-renewable resources vital to a community's sense of identity, and are affected by land use planning decisions, every official plan will need to include cultural heritage resource conservation policies. All official plans should contain policies which capture the following:

- The municipality recognizes the need to manage the community's cultural heritage resources in a responsible manner. Cultural heritage resources include archaeological resources; buildings and structural remains of historical, architectural and contextual value; and rural, village and urban districts or cultural landscapes of historic interest.

- The municipality will seek to conserve cultural heritage landscapes and built heritage resources when making development and infrastructure decisions which may affect those resources. As well, the *Ontario Heritage Act* may be utilized to conserve significant cultural heritage resources through the designation of individual properties or areas, and the designation of a group or groups of properties as Heritage Conservation Districts.
- The municipality must ensure that archaeological resources are conserved, by requiring the preparation of an archaeological assessment when a development or infrastructure proposal will adversely affect a resource or area of potential, and by requiring that impacts to identified archaeological resources of significance are mitigated through excavation or preservation on site. The municipality may seek to protect significant archaeological resources through zoning by-law provisions set out in subsection 34(1) of the *Planning Act*.

These points can serve to address the specific conservation measures that municipalities and approval authorities can follow in order to meet the intent of policies B14 and B15. The points may serve directly as policy statements, or suggest the emphasis that comparable alternatives should follow.

In addition, many municipalities will want to incorporate additional policies which can address other important aspects of local heritage conservation, and create the impetus for developing local planning tools which can assist both the municipality and approval authority. These additional policy directions include:

- policies to establish a Local Architectural Conservancy Advisory Committee, as set out under the *Ontario Heritage Act*, to advise and assist the municipality on all matters related to heritage conservation in the community;
- policies related to the development and maintenance of a municipal heritage master plan, resource inventories, heritage guidelines and planning tools such as development screening criteria, etc.;
- policies which encourage and support heritage conservation activities at the municipal level; and
- policies supporting the promotion, education and community involvement in the municipality's cultural heritage.

Sample policies which can address a broad range of cultural heritage conservation matters at the municipal level are provided in the accompanying Technical Manual. The policies provided in the Technical Manual are intended to serve as a guide. They should be expanded or modified to reflect the unique characteristics, interests and aspirations of the community - as well as the municipality's intent - in regard to the municipal involvement in all aspects of cultural heritage resource conservation.

MCTR will review municipal official plans from a cultural heritage conservation perspective.

It is therefore recommended that municipalities contact and work with MCTR, early on in the process of developing an official plan, to review the range of policies available to address the intent of B14 and B15.

Tools for Implementing Policy B14

The most effective way of meeting the intent of policy B14 is through the maintenance of municipal heritage resource inventories, and the development of policies, development screening criteria and local guidelines for conserving built resources and cultural heritage landscapes. These tools can assist municipalities and/or approval authorities by identifying where heritage interests will be affected by decisions, and how cultural heritage resource conservation measures can be incorporated into those decisions.

In addition, a Local Architectural Conservancy Advisory Committee (LACAC), which can be established for any municipality under the *Ontario Heritage Act*, can serve to assist the municipality in the local decision-making process by:

- Identifying local interest in the community's heritage resources;
- Inventorying built heritage resources and cultural landscapes of significance in the community;
- Advising the municipality of properties or groups of properties which may be designated under the *Ontario Heritage Act*;
- Advising the municipality on the development of official plan policies, cultural heritage resource master plans and municipal heritage guidelines; and
- Developing and promoting opportunities for heritage awareness and public education.

Thus a LACAC can play a key role in local heritage resource conservation, and in further defining the municipal interest in particular heritage resources. Specifically, LACACs can help in the decision-making process associated with policy B14. However, the presence or absence of a LACAC should not impede the municipality from also seeking a broad, public consultation to help develop and define the importance of heritage conservation at the local community level.

Inventories, Development Screening Criteria and Municipal Guidelines

Wise and effective management of a municipality's cultural heritage resources will depend on the nature and extent of the data collected for those resources. This information should be compiled in a formal, organized and structured manner, as achieved through the development of resource inventories (see the Technical Manual accompanying this guideline for more detail).

Inventories compiled for cultural heritage landscapes and built heritage resources should include all resources of significance within the community. The inventory should list the reasons for inclusion, and whether the resource is important in of itself, or is a component of a larger resource or landscape of importance. The inventory can also indicate resources which have been

designated under the *Ontario Heritage Act*, or will be considered for designation in the future. Through consultation with LACAC, interested persons from the community, affected landowners, etc., this inventory can also reflect the relative significance the community ascribes to the resources listed (see Section 4 of the Technical Manual accompanying this guideline for a review of heritage resource significance criteria).

The information provided in these inventories, such as level of significance ascribed for a resource, can assist the municipality in creating policies or compatible development screening criteria which can effectively plan for developments which may affect significant built heritage resources and cultural heritage landscapes. In consultation with the community, policies and criteria can be formed which can suggest preferred development types and densities, as well as building styles, materials, height, etc. This can facilitate development while still conserving the resource, or significant elements of the resource. This can also be reinforced through zoning, which can help facilitate compatible development in those heritage-sensitive areas of the municipality.

Finally, municipality-specific guidelines can be developed to provide detail on how heritage resource conservation concerns can be incorporated into the decision-making process. These may include:

- Guidelines to identify and record significant cultural heritage landscapes and built resources;
- Land use planning and zoning guidelines for significant heritage districts or areas designated under the *Ontario Heritage Act*;
- Compatible development screening criteria guidelines suggesting: (1) preferred density and height restrictions around significant cultural heritage landscapes and built resources; (2) preferred methods for the conservation and maintenance of significant heritage properties; (3) preferred urban design criteria for conserving significant heritage streetscapes.

MCTR staff and, where applicable, LACACs, can assist municipalities in developing the inventories, policies, guidelines and screening criteria which would be most appropriate for that community.

Tools for Implementing Policy B15

Policy B15 offers a very specific means of addressing archaeological conservation concerns within the planning process by stating that:

"Development₂ and infrastructure may be permitted on sites containing significant archaeological resources and on sites with medium and high potential if the site is studied and the archaeological resources are removed, catalogued and analyzed prior to development₂ or construction..."

The best approach to ensure that development and infrastructure can occur on sites containing

significant archaeological resources, or in areas of medium and high archaeological potential, will be to inventory known archaeological resources in the municipality, identify all areas of archaeological potential within the municipality, and develop a process that ensures all appropriate studies are conducted.

Archaeological Resource Inventories

A first step in addressing archaeological conservation concerns is creating an inventory of all known resources within the municipality. The Ministry of Culture, Tourism & Recreation, which maintains and regularly updates a list of all registered archaeological sites across the province, can provide this data for the purpose of developing municipality-specific inventories. However, due to the potential impacts to these sites from looting and other destructive activities, public access to this location information will need to be minimized. Municipalities should review with MCTR the best way of utilizing this database within the land use planning process, while still protecting the resources.

It should be emphasized that MCTR's database reflects only the extent of previous archaeological survey that has occurred across the province, and not the full extent of the archaeological record. This can severely limit the quantity and quality of the data available for a particular municipality. Consequently, other means of documenting archaeological resources must also be incorporated into any planning exercise.

Ideally, all lands within a municipality should be archaeologically surveyed, in order to generate an absolute, definitive inventory of all archaeological resources present. However, this can be a lengthy and costly exercise, providing more information than is necessary for meeting policy B15. Rather, it may be appropriate to restrict areas surveyed to those lands in the municipality where development growth is anticipated over the next 5, 10 or 20 years.

Determining Areas of Archaeological Potential

The established means to address archaeological concerns when a definitive inventory is not available is to consider the likelihood that archaeological resources will be found in particular areas of the municipality. This process evaluates the archaeological potential for all lands under consideration. Determining areas or zones of archaeological potential is based on identifying the presence of a wide range of geographic and historic features. These features are critical, since they directly influenced past settlement and subsistence activities carried out by the people living in a region, which in turn determined where the formation of archaeological resources occurred.

While each municipality will exhibit unique characteristics which will have influenced past settlement, there are some general features common to all municipalities which can be considered in determining potential. These include:

-
- distance from water. This should include a consideration of both existing, as well as relic water sources (as indicated by glacial beach ridges, abandoned shorelines, or channelized river and creek beds). This should also distinguish between primary sources of water (e.g., rivers, lakes, larger creeks), and secondary sources (e.g., smaller creeks and streams, springs, marshes, swamps, etc.). This is perhaps the most important single feature to consider, since, as a source of potable water and as transportation corridors, water courses played an important part in the settlement decisions made by Aboriginal and early historic Euro-Canadian peoples;
 - presence of known archaeological resources;
 - presence of rolling or elevated topography, sandy soils, or unusual land formations;
 - capacity to accommodate large-scale or resource extractive settlements;
 - presence of early historic transportation corridors;
 - presence of early historic settlements, cemeteries, military, industrial or economic activity areas; and
 - evidence from documentary sources, local knowledge or Aboriginal oral history associating a specific location with historic events, activities or occupations.

Once these geographic and historic features have been identified and mapped, areas found to be closely associated with them would have archaeological potential, while areas away from them would have a low potential. As well, distinguishing between areas of moderate and high archaeological potential would be based on the number of features present in a given area: several features in combination, such as a high sandy knoll associated with the confluence of two water courses, would suggest a high archaeological potential.

Section 3 of the Technical Manual accompanying this guideline reviews in detail the general features or criteria which can be used to help identify areas of archaeological potential within a municipality. However, the detailed measurement and application of these criteria, including a determination of the appropriate distances to use when measuring associations, must take into account the unique characteristics of the municipality in question. For example, associations with water will mean something different in the District of Muskoka, Essex County or North Bay.

As well, in order to ensure that potential determinations are accurate, and decisions arising from those determinations are consistent with *Ontario Heritage Act* resource conservation requirements, municipalities and approval authorities will need to consult with MCTR. This ministry can assist municipalities and approval authorities in determining the most appropriate way to document archaeological potential, the criteria that should be used, and the method for applying and evaluating individual criteria. MCTR can also evaluate the resulting determinations of archaeological potential.

Once known archaeological resources and areas of potential have been mapped for a municipality, determining which developments and infrastructure projects have archaeological resource concerns is simply a matter of determining if the lands in question fall within areas of archaeological potential. Requirements for those projects are reviewed in the next section of this guideline.

2.4

Heritage Conservation at the Development Plans Level

The conservation of cultural heritage resources is not intended to prohibit development, but rather to ensure that heritage resource concerns are addressed as a part of the development plans review process. Reviewing development applications (official plan amendments, plans of subdivision, consents, development permits, zonings, etc.) for heritage conservation purposes means determining if the development will adversely impact significant heritage resources on the development property.

Policies B14 and B15 will primarily apply to decisions regarding larger developments and infrastructure projects (e.g., plan amendments, subdivisions, etc.), since these have the greater potential to negatively impact a significant cultural heritage landscape, built heritage resource or archaeological resource. However, smaller scale developments (e.g., consents, zonings etc.) can also negatively impact a significant heritage resource. So, while these impacts are more restricted in extent and will be a less frequent concern, municipalities and/or approval authorities should be able to recognize when these kinds of developments have a heritage resource conservation component. The best way to accomplish this is through the use of a detailed and thorough cultural heritage resource inventory, that can used to identify the specific small scale developments which will have a heritage concern. Regardless of whether or not a municipal inventory is available, some small scale developments will impact significant cultural heritage resources. As a result, MCTR can assist municipalities and approval authorities in determining what the appropriate scale of application should be when addressing heritage resource concerns for smaller scale developments.

There are a number of ways in which decision-makers can facilitate the review of large and small scale developments for cultural heritage resource conservation concerns. These include:

- maintaining in-house staff with the expertise and training to make the necessary heritage potential determinations and resource evaluations;
- developing and using cultural heritage resource inventories and potential mapping to identify areas of heritage concern; and/or

- using MCTR staff technical assistance to assist in determining potential on a development by development basis.

However, it is recognized that some municipal approval authorities will be unable, on their own, to develop and maintain the abilities, expertise and tools necessary to conduct development plans review for cultural heritage resources. In such cases, MCTR Cultural Programs Branch staff can work with individual approval authorities to develop the tools and abilities needed to meet the requirements of policies B14 and B15, and address heritage conservation concerns associated with individual developments and infrastructure projects. Specifically, MCTR staff can assist by:

- training approval authority planning staff on how to address cultural heritage resource conservation concerns within land use planning;
- developing cultural heritage resource inventories and heritage potential maps specific to the individual municipality;
- providing heritage potential criteria that can be applied directly to individual development projects during the plans review process;
- providing on-going monitoring of the use of potential determinations, and assist in refining and improving those determinations; and
- providing technical assistance in reviewing and commenting on specialist reports and resource evaluations.

Cultural Landscapes and Built Heritage Resources

Cultural heritage landscape and built heritage resource conservation concerns are best addressed through the use of heritage conservation policies, inventories, and compatible development screening criteria. However, until such resource conservation tools are in place, municipalities and approval authorities will still need to respond to built heritage resource and cultural heritage landscape conservation concerns when they are identified for specific development applications.

In such cases an evaluation of the resource in question, and its significance, should be determined in order to properly address the intent of B14. To obtain this information an assessment of the resource, and a consideration of the planned impacts, should be generated. This assessment should be conducted for the proponent by a properly qualified cultural heritage resource consultant, or by the municipality, if municipal staff or LACAC members are able to undertake this work.

The municipality or approval authority can seek the advice of LACAC, heritage groups or qualified individuals when reviewing assessment report determinations of significance, and conservation recommendations. Consulting with a LACAC also provides the municipality and/or approval authority with the means to receive a broad input from the community as to the

importance of the resource in question.

If a significant built heritage resource or cultural heritage landscape has been identified, conservation options should be considered in consultation with LACAC and/or MCTR staff. The appropriate conservation option for a built heritage resource or cultural heritage landscape will be based largely on the determination of its significance, its importance to the community, and existing local and provincial standards. These options can include preservation, re-use or incorporation, all of which serve in varying degrees to protect its integrity and heritage value.

Where it is not possible to retain the resource, other, less preferable, options can be considered. These options include documentation and salvage measures, such as relocation or retention. As an alternative to demolition, these options do serve to record important heritage features and preserve unique elements of the resource, if it cannot be retained on site. Nonetheless, most of the resource's distinctive setting, character and features are lost, thus these options should be regarded as "last resorts," acceptable only after other options have been considered and demonstrated not to be viable. A complete range of conservation options, and their relative appropriateness for significant built heritage resources and cultural heritage landscapes, are reviewed in detail in section 5 of the Technical Manual accompanying this guideline.

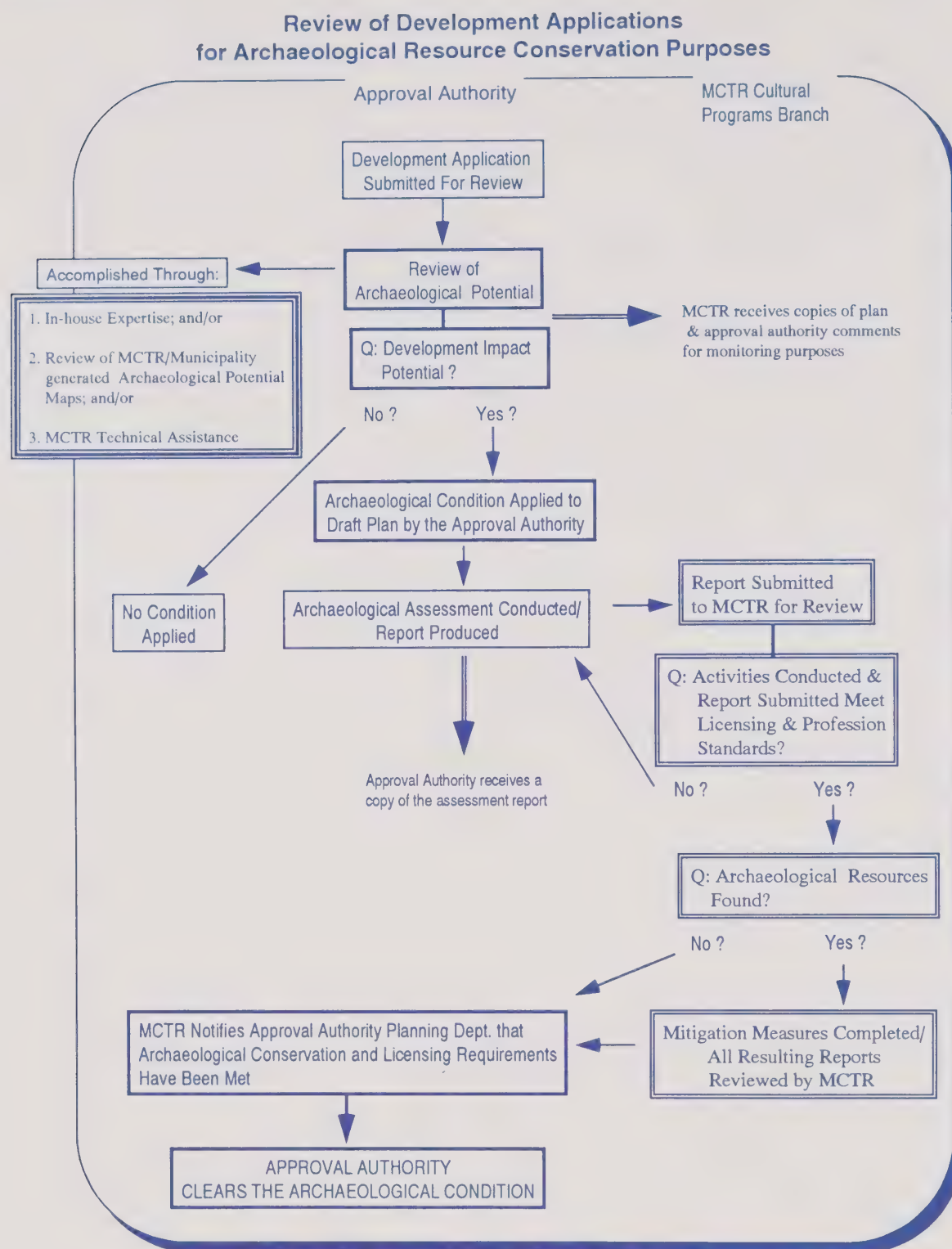
Archaeological Resources

Policy B15 states that development and infrastructure projects may be permitted on sites containing archaeological resources, or in areas exhibiting medium or high potential, if the sites are studied and the resources are protected before development or construction begins. The studies are accomplished through archaeological assessment, conducted by an individual or firm holding a valid archaeological consulting licence issued by the Minister of Culture, Tourism & Recreation. A current list of licence-holders is available from the Cultural Programs Branch of MCTR.

For those municipalities where archaeological potential maps and inventories are available, approval authorities can determine which development applications have archaeological resource concerns by simply utilizing these planning tools. Where such planning tools are not available, archaeological potential will need to be evaluated on a development by development basis, through a presence/absence determination of archaeological potential criteria.

To ensure that determinations of archaeological potential for development applications meet *Ontario Heritage Act* resource conservation requirements, MCTR staff will monitor the application of potential by approval authorities. This ministry can also assist approval authorities in refining and improving these determinations, where appropriate (see **Figure 1**). Alternatively, and if requested, MCTR staff can provide the technical assistance needed by an approval authority to determine archaeological potential. Section 3 of the Technical Manual accompanying this

Figure 1



guideline reviews the particular methods available to determine archaeological potential for individual development applications. It should be noted that the use of provincially established potential criteria, and MCTR's monitoring of potential evaluations made by approval authorities, will ensure consistent determinations of potential and provincial support for those determinations.

When Archaeological Potential Has Been Determined

When an approval authority has determined that a development application exhibits low archaeological potential, and does not contain any known archaeological resources, then no archaeological concerns will be deemed to exist for the application. However, when the lands of a development application are known to contain an archaeological resource, or exhibit areas of medium or high potential, then the proponent will need to meet the requirements of Policy B15, by having the lands archaeologically assessed.

In order to ensure that the need for an assessment will be met by the proponent, approval authorities should attach an archaeological resource condition to the development application, which must be satisfied in order for the proponent to obtain final approval. Sample wording for such a condition is provided here:

Standard Archaeological Condition

The proponent shall carry out an archaeological assessment of the subject property and mitigate, through preservation or resource removal, adverse impacts to any significant archaeological resources found. No demolition, grading or other soil disturbances shall take place on the subject property prior to the issuance of a letter from the Ministry of Culture, Tourism and Recreation to the approval authority indicating that all archaeological resource concerns have met licensing and resource conservation requirements.

This condition will require the proponent to undertake an archaeological assessment of the subject property. The licensed archaeologist who conducts this fieldwork must follow provincial licensing and technical guideline provisions, and submit reports to MCTR which detail the resources documented and their relative significance. MCTR staff review the report submitted for licensing and resource conservation purposes. To review the requirements for conducting archaeological assessment activity and determining relative levels of resource significance, please refer to Section 4 of the Technical Manual accompanying this guideline.

In order to coordinate *Planning* and *Ontario Heritage Act* regulatory requirements, MCTR staff will formally advise the approval authority if the report in question satisfies archaeological conservation and licensing requirements. If the report documents only resources of limited significance, not requiring further protection, MCTR will also advise the approval authority that there are no remaining archaeological resource concerns associated with the development

application. This will enable the approval authority to clear the archaeological condition. If significant archaeological resources requiring further documentation have been identified during the assessment, then MCTR will provide comments to the approval authority on the appropriateness of the resource conservation strategies proposed (see **Figure 1**).

Archaeological Resource Conservation Measures

According to Policy B15, when significant archaeological resources have been discovered on a development property, development impacts to the resource will need to be mitigated through resource removal or preservation. Removal consists of properly excavating and documenting the resource, an activity that must be conducted by a licensed archaeologist. The resulting excavation report is reviewed by MCTR for *Ontario Heritage Act* requirements. MCTR staff can then advise the approval authority if the work conducted has met resource conservation requirements, and if all archaeological concerns have been met for the subject property. At this point the archaeological condition can be cleared by the approval authority (see **Figure 1**). A review of the range of archaeological resource removal options available to the proponent is provided in section 5 of the Technical Manual accompanying this guideline.

Generally, the preferred and most cost-efficient method of conservation available to the proponent is site preservation. This method allows development to proceed without first having the resource excavated, assuming that construction can avoid the area of the property containing the resource. There are several preservation options available to the proponent, and the one selected will first need to be reviewed with MCTR and the approval authority before it can be implemented. A review of the archaeological resource preservation options available is provided in section 5 of the Technical Manual accompanying this guideline.

Additionally, if preservation is the preferred mitigation option for a significant archaeological resource, long term resource protection measures will be required. The preferred measure available to the proponent and approval authority is the use of a prohibitive zoning by-law. Paragraph 3.3 of subsection 34(1) of the *Planning Act* states that council can pass a zoning by-law "*for prohibiting all or any use of land and the erecting, locating or using of all or any class or classes of buildings or structures on land that is the site of a significant archaeological resource.*"

If this option is not viable, the proponent can also explore easement, dedication, or other permanent protection measures. Once all short term and long term protection measures have been established, MCTR can advise the approval authority that no further archaeological resource concerns exist. This will allow the approval authority to clear the archaeological condition on the development application.

Appendix

Glossary

The first five definitions below are for terms defined in the Comprehensive Set of Policy Statements:

Archaeological Resources:

means the remains of any building, structure, activity, place or cultural feature or object which, because of the passage of time, is on or below the surface of the land or water, and is of significance to the understanding of the history of a people or place.

Built Heritage Resources:

means a building, structure, monument or installation (or group of them), or remains associated with architectural, cultural, social, political, economic, or military history.

Cultural Heritage Landscape:

means a landscape which has been altered through human activity and has been identified as being important to a community.

Development₂:

means the construction, erection or placing of a building or structure; activities such as site grading, excavation, removal of topsoil or peat, and the placing and dumping of fill; drainage works, except for the maintenance of existing municipal and agricultural drains.

Infrastructure:

means the physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

The following terms are also used in this implementation guideline:

Archaeological Assessment:

The inspection of all lands within a development proposal exhibiting medium or high potential for the discovery of archaeological resources. This is accomplished either by pedestrian survey, walking exposed (cultivated) and weathered land at regular intervals (10 or 5 metres depending on potential) and documenting the occurrence of artifacts on the surface of the land; or by test pitting, that is, excavating shovel blade-sized holes on covered land (pastures, woodlots, lawns) at regular intervals (10 or 5 metres depending on potential), and screening soil in order to look for artifacts, which would indicate the presence of a site.

Artifact:

An object which has been modified or made by human activities. Artifacts are usually portable things, although altered boulders and rock faces (e.g., Native rock art) are also considered artifacts. Likewise, the bones of animals eaten by people have been called “eco-facts” because they reveal information about season of use, and diet of the people who occupied the site.

Community:

A group of individuals bound together by common experiences, whether established through family connection, historical experience, ethnocultural origin, occupational or religious affiliation, or regional or geographical setting. It is the group’s shared heritage which contributes to giving it cohesion.

Cultural Heritage Resource:

Archaeological sites, built resources, traditional use areas, cultural landscapes and shipwreck sites. More broadly, cultural heritage resources include everything produced and left by the people of a given geographic area, the sum of which represents their cultural identity, namely their handicrafts, tools, equipment, buildings, furnishings, folklore, rituals, art, transportation, communications, places of dwelling, play, worship, commercial and industrial activity.

Cultural Heritage Resource Conservation:

A comprehensive process which involves the identification, preservation, interpretation, maintenance and use of heritage resources.

Development Application:

Formal applications which have been made to a municipal or provincial approval authority to allow for development on a specific parcel of land. This primarily includes subdivisions, condominiums, and consents. This can also include parcels of land for which official plan or zoning by-law amendments have been submitted, and may not necessarily be subject to additional review.

Documentation:

For archaeological resources documentation is the detailed recording of sites and features, including artifact processing, analysis and reporting information, and, where appropriate, storage and exhibition of the information. The curation and conservation of artifacts and their associated records (e.g., field notes, photographs, catalogues, etc.) is a necessary component of documentation.

For built heritage resources and cultural heritage landscapes, documentation can include detailed background research on occupational and land use histories, photographic and measured drawings of the important elements of the resource, and mapping context.

Heritage Impact Assessment:

A process involving the investigation of possible impacts to known and potential heritage resources within a specific project area. This assessment includes an inventory and evaluation of heritage resources in the study area. A heritage impact assessment report outlines the significance of the identified resources and makes recommendations regarding mitigation procedures.

Heritage Conservation District:

A cultural landscape as defined in any official plan, and designated under the *Ontario Heritage Act*, or is being considered for designation. Heritage Conservation Districts are aggregates of buildings, structures, streets and open spaces which, as a group, have architectural, historical, archaeological or scenic value. Potential districts can be found in both urban and rural environments and may comprise residential, commercial or industrial areas; established rural landscapes; or entire villages or hamlets. Above all, a Heritage Conservation District has a special character or association that distinguishes it from its surroundings.

Heritage Resource Potential Areas:

Areas which exhibit a potential for the presence of cultural heritage resources. Heritage resources need not be visible for an area to have potential, such as in the case of land containing archaeological sites. Built heritage sites also possess potential which, after proper assessment, can be determined.

Heritage Resource Potential Maps:

Maps outlining known heritage resources within an affected area, as well as zones or areas of heritage resource potential.

Heritage Significance:

The relative value of a particular cultural heritage resource to contribute information and add to our understanding of our heritage. Significance can only be identified after the resource has been adequately evaluated as a result of assessment investigations.

History:

Used here, history is the study of past events or the systematic recording and analysis of human development through time. Usually limited to that period of the human past which has been documented through the use of written records and public or private accounting - factual documentation - as opposed to prehistory or folklore.

Impacts to Cultural Heritage Resources (Adverse/ Negative Impacts):

Anything which alters a heritage resource, causing its loss or destruction, diminishing its heritage significance, or prevents its use or appreciation as a cultural heritage resource.

Local Architectural Conservancy

Advisory Committee:

A committee of five or more people which may be set up by a municipal council under the *Ontario Heritage Act*. The function of the committee is to advise council on local heritage matters and to assist council in carrying out its heritage conservation program.

Mitigation:

The process of minimizing the adverse impacts to an identified cultural heritage resource. Mitigation can mean study and removal in advance of development impacts, or preservation from development impacts

Official Plan:

A legal policy document prepared by a municipality and approved by the province and/or upper-tier government, pursuant to the *Planning Act*. These documents outline broad land use policies and designations for a municipality, and the direction development will take within the municipality. Changes to official plans, to allow for site specific development to occur in a locale that would be contrary to the policies or designations laid out in the plan, or to alter or add new policies to the plan, are referred to as official plan amendments.

Potential:

The likelihood that a parcel of land contains cultural heritage resources, and thus the likelihood that development will impact those resources. Potential is determined by considering the full range of geographic and historic features associated with and adjacent to the property.

Prehistory:

That period of the human past which existed prior to the regularized recording of public and private human events and activities through written documents. Prehistoric documentation is achieved through the study of human artifacts and ecofacts, along with their associated depositional and cultural context; i.e., archaeology.

Traditional Use Sites:

These are geographically defined sites which are important to a community, but for which there may be no physical remains. Some examples are resource extraction areas (hunting grounds, etc.) used by an Aboriginal community, gathering places (such as fairgrounds), spiritual or ritual areas, viewpoints and scenic shorelines used by local communities.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Transportation and Infrastructure Corridors

Implementation Guideline for **Policy B16**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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1

INTRODUCTION

It takes a lot of time and money to acquire a transportation or infrastructure corridor. Many of the existing corridors were acquired when land values were considerably lower and before land fragmentation made land assembly more difficult. As technology and the economy change, some corridors are no longer required for their original purposes. In other cases, the acquisition of new corridors may be required. In these instances, adjacent municipalities and the affected operators may wish to cooperate to develop improved communication linkages or infrastructure to support economic development strategies.

As an alternative to duplicating the process for the creation of new corridors, the use of an existing corridor for more than one purpose, where appropriate, may drastically reduce the cost of locating the new use; it may also provide revenue and the opportunity for shared maintenance costs to the original user. For example, the cost of a new service or use that requires a linear corridor may be substantially reduced if arrangements can be made with existing owners to increase the type or intensity of use of an existing corridor as an alternative to "starting from scratch" with a new one. The ability to avoid the cost and time required to create new corridors may reduce the cost of service provision for both new and existing uses.

Surplus transportation and infrastructure corridors represent both a challenge and an opportunity. Their physical dimensions may place limitations on their use for some purposes. However, they may be ideally suited to other land uses dependant on a more linear form and connectivity over long distances, especially if their continuity has not been broken by the removal of segments from the landholding. For example, they often connect population and resource centres; once their original function is no longer necessary, they can be used to connect these centres in a different way and for a different purpose. In areas where the promotion of tourism opportunities is considered important, the acquisition of surplus corridor lands for use as trail systems may be considered a priority. Once these corridors are fragmented or obstructed by other non-linear uses, they are lost forever to municipalities, public authorities, utility companies and other potential users.

Foresight may prevent the loss of corridors that would be useful for other related purposes. Similarly, by sharing the cost of acquiring and maintaining corridors, the provision of individual services may be more cost effective.

2

POLICY

Explanation and Implementation

Policy B16 states that:

"The continuous linear characteristics of *significant* transportation and infrastructure corridors and rights-of-way, including abandoned railway corridors, should be protected."

2.1

Policy Explanation

Transportation and Infrastructure Corridors

The policy statements do not define the term "transportation and infrastructure corridors and rights-of-way". However, based on the definitions for "transportation systems" and "infrastructure" in the policy statements, and on the element of linearity that is introduced by the term corridor, uses such as the following could be located in transportation and infrastructure corridors:

- highways;
- major pathway or trail systems;
- abandoned railway lines which have been declared surplus, and any operating railway lines which are not under the jurisdiction of the *Railway Act*;
- major sewage and water trunks;
- rail-based transit lines;
- pipelines for the transmission of oil, gas and other materials;
- major lines or underground facilities for the transmission of electric power or communications.

Non-linear facilities such as sewage treatment plants and waste disposal sites are not addressed by this policy.

Significant Corridors

Policy B16 pertains only to significant corridors. The term "significant" is defined in the policy statements as meaning:

"...important in terms of amount, content, representation, or effect."

In determining whether a corridor is significant, planning authorities could consider some or all of the following questions:

- Is the corridor addressed in a provincial development plan or identified as significant through a coordinated provincial planning exercise?
- Could the corridor support economic development initiatives or provide other measurable benefits to the broader area?
- Could the corridor be used to address infrastructure capacity deficiencies in high demand areas?
- Can the corridor provide opportunities for linkages among communities or resources?
- Does the corridor connect to corridors in adjacent municipalities?
- If the corridor is not held in continuous ownership, is there potential for establishing continuous ownership?
- Is there a potential for partnerships in acquiring and developing a corridor for one or more uses as a result of interest by more than one group?
- Is there an established need for corridors for linear facilities in the broader area? Do alternative, secured corridors exist in the area for proposed uses? If so, which corridor is the preferred corridor?
- Could the corridor be used for multiple, shared or joint uses? Are there any constraints or characteristics which would make the corridor unsuitable for other transportation or infrastructure uses? What is the potential impact on adjacent non-linear uses? (For example, a major hydro corridor consisting of individual towers linked by power lines may have little impact on agricultural operations in an area, but other uses may be more intrusive.)
- Is the corridor now surplus, or does the operator intend to declare the facility surplus and dispose of its holdings?

- Is there pressure for non-linear uses which would interfere with the establishment of planned future linear uses?
- Are there any other factors which relate to potential uses of a specific corridor, or which reflect regional circumstances?
- How does the corridor relate to established long term demand for transportation or infrastructure purposes?

Continuous Linear Characteristics

The width of transportation and infrastructure corridors may vary, but what they may have in common is length and continuity of ownership. Corridors often cross political boundaries. They may extend across municipal, provincial, or even federal boundaries. Examples are the Parkway Belt West Plan, which established a transportation and infrastructure corridor across the Greater Toronto Area; the 400 series highways, which connect settlements within Ontario and extend into other provinces; and the Bruce Trail, a continuous walking trail which crosses regional and county boundaries.

The term "continuous linear characteristics" is not defined in the policy statement. However, based on common usage of these terms, continuous linear characteristics could be interpreted to mean the connected or unbroken or uninterrupted spans which are distinctive to corridors and other linear facilities.

The continuous linear characteristics of individual corridors may vary - some have surface structures, others have subsurface structures; some are in straight lines, others follow topographic contours; some are owned outright, others are in the form of easements over land owned by a series of individual owners; some have contiguous land areas that are not part of the continuous linear corridor.

Discussions with the operators responsible for specific significant corridors can provide useful information for defining continuous linear characteristics.

Protection

Policy B16 indicates that continuous linear characteristics of corridors which have been identified as significant should be protected. Current usage of the word "protected" suggests that these defined linear characteristics should be maintained, preserved, sustained, or safeguarded.

This is not intended to imply that operators must agree to the location of new linear uses within these corridors, or that surplus corridors which cannot be acquired by a public authority cannot be sold to individual owners - that would be going beyond the scope of what is possible under the *Planning Act*. Nor is it intended to preclude all new non-linear uses from these corridors. What is intended is that planning authorities determine which of the significant corridors are to be protected, and how that protection will occur - through land use planning

and/or acquisition. However, decisions regarding permitted non-linear uses within the corridors and regarding lot creation will conform with applicable official plan policies and designations.

2.2

Possible Implementation Approaches

This policy will be implemented through decisions of planning authorities under the *Planning Act*. Planning authorities which have identified significant corridors they wish to protect can implement policy B16 through policies and designations in official plans and zoning by-laws, and through decisions on development applications such as plans of subdivision and consents.

Discussions with Operators and Owners

The best way to promote a policy-led approach to the identification and protection of the linear characteristics of significant corridors is early, ongoing and cooperative discussions among the planning authority and the owners of transportation and infrastructure corridors. These discussions will provide useful information on long term demand, special circumstances which may apply, the characteristics of significant corridors, corridors which may become surplus to the operator's needs, the potential for shared or multiple use of specified corridors, and any title restrictions which would impede additional or alternative uses of the corridors.

Official Plans

To support a policy-led system, significant corridors which are to be protected should be identified in the official plan, and policies included to show how their characteristics are to be protected. Discussions with the operators and owners and other parties who may have an interest should be the first step in preparing official plan policies and designations to implement this policy, so that the interests of all parties can be accommodated to the extent possible, and so that unnecessary conflicts can be avoided. It is suggested that the following issues be addressed by the policies:

- What are the continuous linear characteristics that are being protected, and for what purpose are they being protected?
- What uses are compatible and incompatible with those characteristics? Are there any non-linear uses which could be permitted without interfering with the linear characteristics in the long term (i.e., agriculture, recreation, natural corridors etc.)?

- What controls, if any, are to be placed on the uses of adjacent lands or on the division of the corridor?
- What process will apply if the corridor becomes surplus to the operator's needs? What corridors may be declared surplus by the operators in the foreseeable future?
- How will rights be acquired for proposed alternative uses?
- How will potential land use incompatibilities be addressed (see guideline on policy B17).

These policies should be developed in consultation with the operators of the corridors, with the input of other interested parties. The normal conflict resolution and appeals process would apply in the case where one or more parties is not happy with the designation or policies.

Planning authorities may decide to protect these corridors through other means as well. For example, the use of initiatives which do not fall under the scope of the *Planning Act*, such as open space/land acquisition programmes or the capital planning acquisition programme may be coordinated with this process.

Section 2.3 of this guideline addresses the relationship between the *Planning Act* and other legislation that affects the operation of specific transportation or infrastructure facilities. The official plan cannot control the activities of agencies in operating the facilities within the corridor in accordance with this other legislation.

Subdivisions and Consents

Applications for plans of subdivision and consents would have to conform with official plan policies. If the official plan has not yet been amended to implement this policy, discussions should still occur with affected operators regarding the impact of adjacent development proposals on the long term operation or disposition of affected corridors.

Zoning

The implementing zoning by-laws could either place these corridors in a separate zoning category, or place the corridor in the same zone as adjacent lands, with special zone provisions or the use of an overlay to permit corridor uses and to permit compatible uses. It may be appropriate to establish zone boundaries on one side of the corridor or the other rather than down the centre line, to reduce potential land use conflicts.

2.3

Other Considerations

Other Relevant Legislation

It should be noted that the operation of these corridors is affected by legislation other than the *Planning Act*, and that decisions under the *Planning Act* cannot control the operation of the transportation or infrastructure facilities. In some cases, corridors may be under the jurisdiction of other levels of government. For example, an operating railway corridor is under the jurisdiction of the Federal Government. For this reason, policy B16 only applies to abandoned railway lines where the underlying lands have been declared surplus.

In addition, the acquisition of lands for certain undertakings may require approvals under the *Environmental Assessment Act*. Councils and planning boards may wish to undertake any necessary environmental assessment studies at the time official plan policies are being developed to implement this policy.

Other Means of Protection

Continuous linear characteristics may be protected through means other than, or in addition to, the land use planning process. For example, operators and owners may agree to partnerships for cooperative use of certain corridors for public uses which are not incompatible with the ongoing use of the corridor. Operators may be encouraged to offer first right of refusal for surplus corridors to public bodies.

Ownership

Some corridors are owned in fee simple by the operators, and arrangements for the acquisition of surplus lands or an appropriate easement, license or other right over operating corridors for multiple uses should be made directly with the operators. However, in some cases, the original agreement of purchase and sale may have required that the land be conveyed back to the original owners once it became surplus to the operators' needs.

Other corridors are not owned in fee simple, but have been established through the acquisition of easements from individual property owners. In many cases, the easements are for a specific use, and any changes in use would also have to be negotiated with the land owners. The addition of compatible uses may also require the acquisition of additional rights. For example, the use of the corridor for a complementary activity such as a hiking trail would not be possible unless the proposed operator also acquired an easement from the landowner. Specific operators should be contacted for information regarding the status of their corridors.

ECONOMIC, COMMUNITY DEVELOPMENT AND INFRASTRUCTURE POLICIES

Land Use Compatibility

Implementation Guideline for **Policy B17**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when

decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local Regional Office of the Ministry of Environment and Energy.

TABLE OF CONTENTS

1	Introduction	1
	1.1 <i>Rationale</i>	<i>1</i>
	1.2 <i>Interpretation</i>	<i>2</i>
2	Policy Explanation and Implementation	4
	2.1 <i>Policy Explanation</i>	<i>4</i>
	2.2 <i>Implementation</i>	<i>5</i>
	2.2.1 <i>General Principles</i>	<i>5</i>
	2.2.2 <i>Specific Principles</i>	<i>7</i>
	<i>Airports</i>	<i>7</i>
	<i>Freeways and Provincial Roadways</i>	<i>7</i>
	<i>Railways</i>	<i>8</i>
	<i>Sewage Treatment Facilities</i>	<i>9</i>
	<i>Waste Management Facilities</i>	<i>10</i>
	<i>Industrial Land Uses</i>	<i>11</i>
	<i>Aggregate Activities</i>	<i>12</i>
	<i>Agricultural Activities</i>	<i>12</i>
	Appendix	
A	<i>Glossary</i>	<i>14</i>

1

INTRODUCTION

This implementation guideline is intended to assist municipalities in making informed decisions with respect to land use compatibility issues, consistent with policy B17 of goal B of the Comprehensive Set of Policy Statements issued under section 3 of the *Planning Act*, 1995¹.

1.1

Rationale

Environmental compatibility between sensitive land uses and major transportation, utility and industrial facilities is a matter of provincial interest in land use planning. Land use compatibility recognizes that certain land uses are incompatible and that adverse effects result from such incompatibility. Land use compatibility falls under the mandate of the Ministry of Environment and Energy through the Ministry's administration of section 14(1), *Environmental Protection Act*, 1990, to prevent adverse affects.

Incompatibility can cause numerous adverse effects (defined in S. 1(1), EPA, RSO 1990) on humans and the natural environment, including:

- impairment of the quality of the natural environment for any use that can be made of it;
- the loss of enjoyment, injury or damage of property;
- an increase in the level of physical and emotional stress on living organisms;
- impairing the safety of persons;
- rendering property or plant or animal life unfit for use by humans, and;
- interfere with the normal conduct of business.

The principle of land use compatibility is to prevent or minimize the exposure of any person, property, plant or animal life to adverse effects associated with the operation of specified facilities and reduces the possibility of section 14(1), *Environmental Protection Act*, 1990, being contravened.

Thousands of complaints about contaminant emissions from major facilities are received annually by the Ministry of Environment and Energy, municipalities and others. These emissions

¹ This Guideline replaces two provincial policies: "Land Use Policies Near Airports," March, 1978 and the "Guidelines on Noise and New Residential Development Adjacent to Freeways", April, 1979.

include airport and freeway noise; railway noise and vibration; sewage treatment plant odour; waste management facility noise, odour, dust, litter, possible gas and leachate migration; industrial noise, vibration, dust and odour. Most of these adverse effects are of a nuisance nature, however at times public health and safety concerns are also an issue.²

To reduce these types of complaints, land use planning should adopt the principles of land use compatibility and prevent incompatible land uses from occurring. The consequences of not preventing environmental conflicts between incompatible land uses are a poor quality living environment and unreasonable costs to major facilities through the limitation of plant operations and expansions, and the addition of otherwise unnecessary emission controls.

MOEE may choose not to investigate complaints that are known to be a result of land use incompatibility arising from a *Planning Act* approval that was contrary to MOEE guidance. In these circumstances MOEE will direct any complaints to the planning approval authority.

1.2

Interpretation

This guideline:

- is primarily intended to minimize adverse effects resulting from point source and fugitive emissions associated with the daily operations of major facilities, specifically: airports, freeways, roadways, railways, waste management facilities, sewage treatment facilities, and industries. It does not address matters of emergency, including spills and plant upsets. These other matters are dealt with by other practices and legislation.
- complements the control of emission sources regulated by the *Environmental Protection Act*, *Ontario Water Resources Act* and the *Pesticides Act*.
- applies where a land use approval under the *Planning Act* could potentially result in the contiguous placement of sensitive land uses and incompatible major facilities, thereby creating an adverse effect.

² The Ministry of Environment and Energy administers a program for pollution control of emission sources by monitoring and enforcing compliance with environmental standards. Notwithstanding, it is recognized that even where emission standards are complied with, adverse effects can sometimes occur. These results from difficult to control point source and fugitive emissions related to the day-to-day operations of major facilities. They may also be pollution occurrences caused by, for example, infrequent plant upsets, equipment malfunctions or adverse meteorological conditions, such as temperature inversions.

The EPA requires hazardous contaminants like methane gas and leachate to be controlled on-site, or on lands included in an MOEE certificate of approval.

-
- recommends separation distances, or the application of other mitigation measures which have been based on the results of investigative studies prepared in accordance with MOEE Guideline D-1, *Land Use Compatibility*, MOEE Guideline D-6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*, and other documents listed in MOEE Procedure D-1-2, "Specific Applications."
 - does not preclude a municipality from introducing more restrictive mitigation measures.

2

POLICY

Explanation and Implementation

2.1

Policy Explanation

Policy B17 states that:

"Land uses such as residences, day care centres, or educational, and health facilities, which may be sensitive to the effects of odour, noise, and other contaminants, should be appropriately designed, buffered and/or separated from major facilities such as airports, transportation corridors, sewage treatment facilities, waste sites, industries and aggregate activities to prevent *adverse effects* from these emissions and contaminants."

The following objectives are recognized as the basis for the policies contained in this document:

- to minimize the adverse effects on sensitive land uses within the influence areas of major facilities with emissions sources;
- to recognize the two-way nature of development by minimizing the encroachment of sensitive land uses on major emission source facilities;
- to recognize that land uses located between and compatible with major facilities and sensitive land uses will promote a beneficial use of the intervening space;

- to recognize the role of municipalities in land use planning to identify, separate and/or otherwise protect sensitive land uses and major facilities for which land use compatibility problems are of provincial significance and/or municipal concern.³

Municipalities should be advised that experience has shown that, in certain instances, a separation distance is the only effective buffer between incompatible land uses. Accordingly, adequate separation distance, based on a facility's influence area, is the preferred method of mitigating adverse effects.

2.2

Implementation

2.2.1

General Principles

Municipalities and approval authorities should ensure that:

- At the earliest stages of the planning process, including during the preparation of background studies and in consultation sessions with the public, land use incompatibility be recognized as causing numerous adverse effects on humans and the natural environment.
- Adequate separation of incompatible land uses be pursued as the first and most desirable method of buffering.
- Where adequate separation is not possible, a combination of separation distance and other mitigative measures should be used to meet Ministry objectives. To ensure that MOEE objectives can be met, feasibility studies should accompany any such proposal. (More detailed information concerning feasibility studies for mitigation techniques is available in MOEE Guideline D-1, *Land Use Compatibility*, MOEE Guideline D-6 *Compatibility Between Industrial Facilities and Sensitive Land Uses*, and other documents listed in MOEE Procedure D-1-2, "Specific Applications.")
- Official plans contain policies designed to encourage compatibility between land uses. The primary means of securing compatibility for new development or redevelopment should be through a system of land use controls, which when applied in concert with relevant building standards, will protect residents from the adverse effects of contaminants such as noise, odour and particulate. It is important to note that in some instances, the impact from

³ MOEE will take abatement action where it deems there is non-compliance with an approval or certificate of approval.

contaminants may be severe enough that no residential, institutional or other "sensitive" development should occur (i.e. a significant impact).

As a minimum, official plans should incorporate the following principles concerning land use compatibility:

- Where possible, the exposure of sensitive land uses to potential adverse effects associated with emissions from major facilities should be minimized through the use of separation distances;
- Where possible, a schedule(s) in the official plan should identify *potential influence areas* for major facilities, namely: airports, freeways, roadways, railways, waste management facilities, sewage treatment facilities, Class I, II and III industries, and;
- Areas containing non-operating or abandoned facilities within municipalities, which are experiencing redevelopment/intensification pressures, should be guided by policies designed to, among other things, minimize land use incompatibility and consider the need for site decommissioning and clean up. Where possible, secondary plans should be created for these areas.

Any compatibility-related official plan policies (including secondary plans) should reflect this general policy section *and* the specific policies in section 2.2.2 below.

- e) Zoning by-laws and amendments, and site plan control (where in place) regulate future land uses in such a way that permitted activities would be environmentally compatible with nearby land uses, in accordance with the specific policies in section 2.2.2 below. Where possible, activities should be characterized according to differences in their physical size, production volumes, the intensity, and scheduling of operations or the objectionable nature of their emissions.
- f) Plans of subdivision, condominiums and consents be permitted only where they would be environmentally compatible with nearby land uses in accordance with the specific principles of section 2.2.2 below.
- g) Land use planning and resource management agencies consider the implications of creating new, or the aggravating of existing, land use compatibility problems.

2.2.2

Specific Principles

Airports

Municipalities and approval authorities should ensure that:

- a) New sensitive land uses are separated or otherwise buffered from existing and/or committed airports to avoid or satisfactorily mitigate adverse effects of noise.
- b) New or expanding airports are separated or otherwise buffered from existing and/or committed sensitive land uses to avoid or satisfactorily mitigate adverse effects of noise.
- c) All development proposals near airports should be reviewed within the context of *Schedule A: the NEF/NEP Land Use Compatibility Table*. The applicable NEF/NEP values are determined from NEF/NEP contour maps and the more restrictive NEF/NEP values apply. Schedule A is part of this guideline.
- d) A detailed noise study is prepared for all land use proposals at or above an NEF/NEP of 28.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131).

Freeways and Provincial Roadways

Municipalities and approval authorities should ensure that:

- a) New sensitive land uses are buffered from existing and/or committed freeways and provincial roadways to avoid or satisfactorily mitigate the adverse environmental effects of noise. Development of new sensitive land uses adjacent to existing and/or committed freeways or provincial roadways should consider the following:
 - (i) The sound level objective for outdoor living areas is 55 dBA (Leq) between 7:00 and 23:00 hours.
 - (ii) Indoor sound levels are to be at or below 40 dBA (Leq) for sleeping quarters such as bedrooms and hospital rooms between 23:00 and 7:00 hours and 45 dBA (Leq) for living quarters such as living, dining, recreation rooms, kitchens, reading rooms and classrooms between 7:00 and 23:00 hours.
 - (iii) The developer be required to satisfy the approving agency that the noise levels for indoor areas and outdoor living areas are the lowest levels possible after applying

attenuation measures.

- (iv) Where new sensitive land uses for which noise control measures are required precede the construction of a designated freeway or provincial roadway, the approving agency may require as a condition of approval that:
 - sufficient lands are conveyed for erection of a noise barrier; and/or
 - a pro-rated cost contribution for barrier construction is made prior to final approval of the development, if barriers are considered necessary at the time of final approval;
 - construction of the inhabitable portion of new sensitive land uses meet the indoor objective sound levels.
- b) Noise feasibility studies will be required for development proposals situated within 100 metres of a freeway right-of-way or 50 m of a provincial roadway right-of-way. The feasibility study shall determine if the recommended levels (outlined above) can be achieved. Detailed noise studies, which are generally a result of conditional development approvals, are typically not required for developments farther than 500 m from the right-of-way of a freeway or a provincial roadway.

Note: Municipalities are encouraged to apply the above principles when considering compatibility with local roads as well.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131). Additional information concerning the efficient use of transportation systems is available in the implementation guideline for policies B5 and B6.

Railways

Municipalities and approval authorities should ensure that:

- a) New sensitive land uses are separated or otherwise buffered, from existing and/or committed railway corridors to avoid or satisfactorily mitigate the adverse effects of noise.
- b) New or expanding railway corridors are separated or otherwise buffered from existing and/or committed sensitive land uses to avoid or satisfactorily mitigate the adverse environmental effects of noise.
- c) The sound level objective for outdoor living areas is 55 dBA (Leq) between 7:00 and 23:00 hours.

- d) Indoor sound level criteria are to be equal to or below 35 dBA (Leq) for sleeping quarters such as bedrooms and hospital rooms between 23:00 and 7:00 hours and 40 dBA (Leq) for living quarters such as living, dining, recreation rooms, kitchens, reading rooms and classrooms between 7:00 and 23:00 hours.
- e) The developer satisfies the approving authority that the sound levels for indoor and outdoor living areas are the lowest levels possible after applying attenuation measures. Noise feasibility studies will be required for development proposals situated within 100 metres of a principle main line right-of-way or 50 m of a secondary main line right-of-way. The feasibility study shall determine if the recommended levels (outlined above) can be achieved. Detailed noise studies, which are generally a result of conditional development approvals, are typically not required for developments farther than 500 m from a railway right-of-way.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131).

Railway vibration may be of significant concern when certain railway operations and sensitive land uses are located too close to one another. Assessment and recommendations pertaining to railway vibration will be undertaken on an individual basis in consultation with the Ministry of Environment and Energy and the Ministry of Municipal Affairs until such time as technical railway vibration guidelines are developed.

Sewage Treatment Facilities (STF)

Municipalities and approval authorities should ensure that new sensitive land uses are buffered from existing and/or committed sewage treatment facilities to avoid or satisfactorily mitigate the adverse effects of odours and noise. Similarly, new or expanding sewage treatment facilities should also be buffered from existing and/or committed sensitive land uses.

When preparing official plans, related amendments, or considering development proposals/changes in land use, etc., where the STF's actual influence area is unknown, the following general separation distance should be applied:

- For Plants equal or less than 25,000 m³/day - 100 metres,
- For Plants greater than 25,000 m³/day - 150 + metres,
- For Waste Stabilization Ponds between 100 & 400 metres

For more detailed direction on achieving compatibility with sewage treatment facilities, please refer to MOEE Guideline D-1, *Land Use Compatibility*, along with the associated Procedure Documents D-1-1, D-1-2 and D-1-3, as well as MOEE Guideline D-2, *Compatibility Between Sewage Treatment Facilities and Sensitive Land Uses*.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131).

Waste Management Facilities

Municipalities and approval authorities should ensure that new or expanding sensitive land uses are buffered from existing and/or committed waste management facilities to avoid or satisfactorily mitigate adverse effects and risks to health and safety of migrating methane and other gases, leachate, noise, odour, dust, litter and other contaminants. Similarly, new or expanding waste management facilities should also be buffered from existing and/or committed sensitive land uses. Where the adverse effects from landfills and dumps cannot be satisfactorily mitigated, no sensitive land uses may be permitted.

When preparing official plans, related amendments, or considering development proposals/changes in land use, etc., where the landfill or dump's actual influence area is unknown, it is recommended that a distance of 500 metres from the perimeter of the fill area of an operating or former landfill / dump site be used as a study area. Any related studies should be conducted in accordance with MOEE's *Guideline D-4: Land Use On or Near Landfills and Dumps*. Re-use of land(s) used for waste disposal purposes within 25 years of the date waste was last deposited will require approval in accordance with section 46 of the *Environmental Protection Act*, RSO 1990.

For more detailed direction on achieving compatibility with waste management facilities, please refer to MOEE's *Guideline D-4: Land Use On or Near Landfills and Dumps*, *Guideline D-1: Land Use Compatibility*, along with the associated Procedure Documents D-1-1 and D-1-3.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131).

Industrial Land Uses

Municipalities and approval authorities should ensure that new or expanding sensitive land uses are buffered from existing and/or committed industrial uses to avoid or satisfactorily mitigate the adverse environmental effects of odour, noise, vibration, particulate and other contaminants. Moreover, new or expanding industrial uses should also be buffered from existing and/or committed sensitive land uses.

When preparing official plans, related amendments, or considering development proposals / changes in land use where the actual influence area is unknown, the following potential influence area(s) should be considered:

Class I Industrial	-	70 metres,
Class II Industrial	-	300 metres,
Class III Industrial	-	1000 metres.

Points of measurement may vary with the level of plan detail as set out in MOEE Guideline D-6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*.

Sensitive land uses falling into any one of the above influence areas should require studies to determine the impact of noise, dust, odour and particulate in accordance with MOEE Guideline D-6 *Compatibility Between Industrial Facilities and Sensitive Land Uses*. If the proposal involves the intensification and redevelopment of a site within an existing settlement area and the subject site does not meet the minimum separation distance of 20 metres for Class I, 70 metres for Class II and 300 metres for Class III, a feasibility analysis will be required as set out in MOEE Guideline D-6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*.

It should be noted that the above distance measurements and industry classifications are generic and intended as indicators of possible land incompatibility only. In certain instances, for example in the case of a large-scale industry such as a smelter plant, the prescribed influence area and minimum separation distance may not be sufficient.

For more detailed direction on achieving compatibility with industrial land uses, please refer to MOEE Guideline D-6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*, and Guideline D-1 *Land Use Compatibility* along with the associated Procedure Documents D-1-1 and D-1-3.

For further technical information concerning noise, please refer to MOEE's *Noise Assessment Criteria in Land Use Planning* (LU-131).

Aggregate Activities

Municipalities and approval authorities should ensure that new sensitive land uses are buffered from existing and/or committed aggregate uses to avoid or satisfactorily mitigate the adverse environmental effects of odour, noise, vibration, particulate and other contaminants. Moreover, new or expanding aggregate uses should also be buffered from existing and/or committed sensitive land uses.

The influence area for pits and quarries is determined by the Ministry of Environment and Energy and Ministry of Natural Resources on a case-by-case basis. For new operations, the influence area is to be determined by appropriate studies (e.g., noise, dust, vibration, hydrogeological) carried out in support of the applications for licensing or land use approvals. With respect to encroachment of sensitive land uses upon existing pits and quarries and identified undeveloped resource areas, the influence area shall either be established by similar studies or in lieu of these studies, the municipality should apply setbacks from pits and quarries and identified resource areas as specified in MOEE Guideline D-6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*.

For more detailed information concerning aggregate operations, please refer to the implementation guidelines for goal F, which deals with mineral aggregate, mineral and petroleum resources.

Agricultural Activities

Municipalities and approval authorities should ensure that new sensitive land uses are buffered from agricultural activities to avoid or satisfactorily mitigate the adverse environmental effects of odour, noise, particulate or other contaminants.

For more detailed information concerning compatibility with agricultural operations, please refer to the implementation guideline for goal D, which deals with agricultural land.

Schedule A - NEF/NEP Land Use Compatibility Table

Land Uses (A)	Noise Exposure Forecast/Noise Exposure Prediction Values (B)			
	0	28	30	35 40
Group 1 Residential, passive use park, school, library, church, theatre, auditorium, camping or picnic area.	In this range noise is not usually a problem	Discretionary Range All buildings must conform to the Acoustic Design Criteria (C) Some annoyance will occur but residential development will be acceptable if approved by the municipality.		No Group 1 uses may be established except those for which the outdoor environment is irrelevant and which meet the Acoustic Design Criteria.
Group 2 Hotel, motel, retail or service commercial, office athletic field, playground, stadium, outdoor swimming pool	In this range noise is not usually a problem	Discretionary Range The characteristics of each proposed use must be studied and appropriate noise insulation must be incorporated into the building design		No Group 2 uses may be established unless they are adequately insulated indoor uses.
Group 3 Industrial, warehousing, arena, agriculture (D)	In this range noise is not usually a serious problem		Discretionary Range Most Group 3 uses are permissible in this range provided ancillary uses are adequately insulated	

- Notes:**
- A** Uses not specifically mentioned should be compared to the uses listed, classified in the most appropriate Group and regulated accordingly.
 - B** Where NEF and NEP contours both exist, the more stringent applies. The available NEF/NEP contour maps are listed in Figure 3 of the implementation guidelines.
 - C** For residential uses, refer to Section E of "New Housing and Airport Noise" NHA5185 81/05 and any amendments thereto. Acoustic design must include adequate ventilation.
 - D** Research has shown that animals can be conditioned to tolerate noise, but usually with the result of reduced production. Moreover, some types of agriculture crops do attract birds and should not be located closer to an airport than as recommended by Transport Canada in "Land Use in the Vicinity of Airports", document TP1247E, November 1985.

Appendix

Glossary

For the purpose of this Guideline:

Adverse Effect,

as defined in the EPA, RSO 1990 and the Comprehensive Set of Policy Statements means: one or more of,

- (i) impairment of the quality of the natural environment for any use that can be made of it,
- (ii) injury or damage to property or to plant or animal life,
- (iii) harm or material discomfort to any person,
- (iv) an adverse effect on the health of any person,
- (v) impairment of the safety of any person,
- (vi) rendering any property or plant or animal life unfit for use by man,
- (vii) loss of enjoyment of normal use of property, and
- (viii) interference with the normal conduct of business.

Airport:

means an area of land that is used or intended to be used for the landing or take-off of aircraft, including associated buildings and facilities, if any, for which NEF/NEP contours have been defined.

Buffering:

means a method of control to prevent or minimize the adverse effects of incompatible land uses and may be in the form of:

- 1. a land area or intervening space sufficient to provide the necessary distance separation; or
- 2. a natural or man-made feature such as a berm, wall, barrier, planting, topography, trench, fence or other structures or technical control (e.g., solid brick walls, triple-glazed windows to lessen the effect of noise, an active or passive gas venting system); or

- 3. a land use different from the two conflicting ones but compatible with each; or
- 4. any combination of the above, interposed between conflicting land uses.⁴

Committed Land Use:

means a land use in accordance with federal, provincial or municipal plans, by-laws and/or zoning orders, which has been approved by the regulatory authority, but is not yet existing.

Contaminant:

means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that may cause an adverse effect.

dBA:

means a sound pressure level indicated by a measurement system that includes an A-weighting network. The A-weighting network approximates the relative sensitivity of the normal human ear to different frequencies of sound. The resulting value is in decibels and is commonly labelled dBA.

Detailed Noise Study:

means a study which is generally a result of a conditional approval. The purpose of the Detailed Study is to assess all noise sources affecting the proposed lands and include details of assessment methods, results and recommendations for control measures.

⁴ *Buffers* are used to minimize or prevent *adverse effects* associated with *facilities*. *Buffers* are not a substitute for legislated controls at the *facility* source which deal with difficult to contain *discharges* and other compatibility problems. In many cases *buffers* cannot be expected to eliminate all conflicts, but should reduce the *contaminant discharges* and other compatibility problems to no more than the *trivial impact* level.

Emission:

means a discharge of a contaminant into the natural environment.

Feasibility Study or**Feasibility Analysis:**

means a technical study submitted as part of a complete application, which evaluates the ability of the proposal to achieve the MOEE's objectives for contaminants.

Freeway:

means a completed or partially developed or proposed provincial or municipal divided arterial highway that is accessible from intersecting arterial streets at grade-separated interchanges.

Fugitive Emission:

means reasonably expected/predictable contaminant occurrences associated with normal operational practices and procedures (e.g., materials handling or outdoor storage) of industrial facilities, which are generally difficult to practically control at the source or on-site. These emissions are not point sources (i.e. **not** from stacks or vents). Fugitive emissions are from all other sources. These emissions may include odour, noise, vibration and particulate such as dust. Emissions from a breakdown are **not** considered "fugitive". Breakdown emissions would be covered under a C of A contingency plan, or are considered to be a "spill".

Indoor Sound Level or Criteria:

means the A-weighted equivalent sound level (Leq) applicable for the specified time periods for the indicated types of indoor space.

Industry, Industrial Land Use or Industrial Facility:

means a facility or activity relating to: the assemblage and/or storage of substances/goods/raw materials; their processing and/or manufacturing; and/or the packaging and shipping of finished products. Industrial facilities are further defined as being either Class I, II, or III.

Class I Industrial Facility: A place of business for a small scale, self contained plant or building which produces/stores a product which is contained in a package and has low probability of fugitive emissions. Outputs are infrequent, and could be point source or fugitive emissions for noise, odour, dust and/or vibration. There are daytime operations only, with infrequent movement of products and/or heavy trucks and no outside storage. See **Appendix A** of MOEE Guideline D-6,

"Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

Class II Industrial Facility: A place of business for medium scale processing and manufacturing with outdoor storage of wastes or materials (i.e. it has an open process) and/or there are periodic outputs of either point source or fugitive emissions for noise, odour, dust and/or vibration, and a low probability of fugitive emissions. Shift operations are permitted and there is frequent movement of products and/or heavy trucks during daytime hours. See **Appendix A** of MOEE Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

Class III Industrial Facility: A place of business for large scale manufacturing or processing, characterized by large physical size, outside storage of raw and finished products, large production volumes and continuous movement of products and employees during daily shift operations. It has frequent outputs of major annoyance and there is high probability of fugitive emissions. See **Appendix A** of MOEE Guideline D-6, "Compatibility Between Industrial Facilities and Sensitive Land Uses" for classification criteria and examples to categorize a specific industry.

Influence Area/Potential**Influence Area:**

means the area(s) at, above or below grade, associated with a 'facility' that is subject to one or more 'adverse effect(s)' which may be of varying duration, frequency and distance of dispersal. This is an actual 'influence area'. A 'potential influence area' identifies where adverse effects are generally expected to occur. An 'influence area' or 'potential influence area' acts as a potential constraint for 'sensitive land use', or conversely on the establishment of a 'facility', unless evidence is provided that 'adverse effects' are not a problem, or can be satisfactorily mitigated to the level of 'trivial impact'.

Land Use Approval:

means a development proposal requiring approval under the *Planning Act*, the *Niagara Escarpment Planning and Development Act* or the *Parkway Belt Planning and Development Act*. This may include an official plan or amendment; zoning by-law or amendment; a Minister's zoning order or amendment; a subdivision or condominium application; a consent application; a Niagara escarpment Plan amendment or development permit application; or a Parkway Belt West Plan amendment or amendment regulation.

Leachate:

means a solution of changed composition, produced by the interaction of percolating liquid with waste and associated cover materials in a landfill. Beyond the waste itself, the contaminated liquid is deemed to be leachate.

Leq:

means the equivalent sound level of a fluctuating sound expressed in the same terms as the level of a steady sound carrying the same total energy within the same time interval.

Major Facility:

means: an airport, freeway, railway, sewage treatment facility, waste management facility or industrial use as defined in this policy.

Methane Gas:

means a colourless, odourless, flammable, gaseous hydrocarbon that may migrate through soils and may pose a fire or explosive threat to buildings constructed within the area where the gas is present.

NEF:

means the Noise Exposure Forecast (NEF) value at a ground position providing an estimate of the integrated noise exposure produced by all types of aircraft at an airport, based on the actual or projected number and type of aircraft as well as the yearly runway utilization. The NEF system takes into consideration the number of flights, the duration of noise, the time of day, the frequency components of the noise and the noise potential of different types of aircraft operating under specific conditions. NEF values increase or decrease in a logarithmic manner, and the resultant scale is aimed at approximating the human response to a complex noise exposure situation.

NEP:

means the Noise Exposure Projection (NEP), which is similar to the NEF with the exception that it provides authorities with long range guidance in land use planning based on a projection of aircraft traffic levels, aircraft types and runway configurations over a specific future time period.

Outdoor Living Area:

means the part of the outdoor area which is easily accessible from the building and which is designed for the quiet enjoyment of the outdoor environment. MOEE Publication LU-131, Noise Assessment Criteria in Land Use Planning provides additional details.

Outdoor Sound Level:

means the A-weighted equivalent sound level (Leq) applicable for specified time periods for outdoor living areas.

Particulate:

means any dispersed particle matter either solid or liquid, in which the individual aggregates are larger than single molecules but smaller than about 500 microns in diameter.

Provincial Roadway:

means a completed or partially developed or proposed highway owned and operated by the province.

Railway:

means a common carrier operating trains over permanent tracks of rails. This includes any rail or transit line that a corporation has authority to construct or operate under the authority of a federal or a provincial charter as well as principal and secondary main lines and principal branch lines. **Principal main lines** include heavy trains with 3 or 4 power units per train, with high speeds, frequently exceeding 80 Km/h (50 mph) and volume generally exceeding 10 trains per day. **Secondary main lines** include trains generally of light or moderate weight with 1 or 2 power units per train, with high speeds, frequently exceeding 80 Km/h (50 mph) and volume generally exceeding 5 trains per day. **Principal branch lines** include trains generally of light or moderate weight, with 1 or 2 power units per train, but may include heavier trains with more units. Low speeds are typical, generally limited to 50 Km/h (30 mph), with regular scheduled traffic usually fewer than 5 trains per day.

Sensitive Land Use:

means a building, ‘amenity area’ or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more ‘adverse effect(s)’ from contaminant discharges generated by a nearby ‘facility’. The ‘sensitive land use’ may be a part of the natural or built environment. Depending upon the particular ‘facility’ involved, a sensitive land use and associated activities may include one or a combination of:

- (i) residences or facilities where people sleep (e.g., single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). **These uses are considered to be sensitive 24 hours/day.**
- (ii) a permanent structure for **non-facility** related use, particularly of an institutional nature (e.g., schools, churches, community centres, day care centres).
- (iii) certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g., trailer park, picnic area, etc.).
- (iv) certain agricultural operations (e.g., mink farming, fruit and vegetable farms).
- (v) bird/wildlife habitats or sanctuaries.

Sewage Treatment Facility:

means sewage treatment works which require approval under section 24, *Ontario Water Resources Act* and includes sanitary sewage treatment plants and stabilization ponds, but does not include industrial waste treatment facilities.

Significant Impact:

means where contaminant discharges cause or are likely to cause an “adverse effect” under the *Environmental Protection Act*, R.S.O. 1990, section 14.

In determining whether an “adverse effect” will occur, the timing and magnitude of contaminant discharges should be related to the sensitive land use’s normal use period(s).

Note: MOEE considers residential land use to be sensitive 24 hours/day.

Trivial Impact:

means present or predictable contaminant discharges which are or are likely to be so minor that there would not be an “adverse effect.”

In determining whether an impact will be “trivial,” the timing and magnitude of contaminant discharges should be related to the sensitive land use’s normal use period(s).

Waste Management Facility:

means works which require approval under environmental legislation for the destruction, processing, storage, treatment, or disposal of wastes. This could include structures, plant equipment, apparatus, mechanisms, or other components associated with transfer stations, incinerators, processing plants, landfills and dumps, or any other sites requiring approval under Part V of the *Environmental Protection Act*.

HOUSING POLICIES

Housing Policies

Implementation Guideline for Policies C1 to C9

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
	<i>Overview</i>	<i>1</i>
	<i>Variation in Municipal Roles</i>	<i>2</i>
	<i>Monitoring</i>	<i>3</i>
2	Policy Explanation and Implementation	4
	<i>Policy C 1 Range of Housing Types</i>	<i>4</i>
	<i>Policy Explanation</i>	<i>4</i>
	<i>Implementation</i>	<i>5</i>
	<i>Housing Market Areas</i>	<i>5</i>
	<i>Municipal Roles</i>	<i>5</i>
	<i>Project Housing Needs: Methodology</i>	<i>6</i>
	<i>Reflecting Needs in Planning Documents</i>	<i>8</i>
	<i>Policy C 2(a) Minimum Affordability Target</i>	<i>9</i>
	<i>Policy Explanation</i>	<i>9</i>
	<i>Implementation</i>	<i>10</i>
	<i>Affordability Analysis</i>	<i>10</i>
	<i>Reflecting Targets in Planning Documents</i>	<i>11</i>
	<i>Servicing Constraints in Rural Areas</i>	<i>12</i>
	<i>Policy C 2(b) Low-Income Sub-Target</i>	<i>13</i>
	<i>Policy Explanation</i>	<i>13</i>
	<i>Implementation</i>	<i>13</i>
	<i>Policy C 3 Community Planning Areas</i>	<i>15</i>
	<i>Policy Explanation</i>	<i>15</i>
	<i>Implementation</i>	<i>15</i>
	<i>What is Meant by "Community Planning Area"?</i>	<i>15</i>
	<i>Distribution of Affordable Housing.....</i>	<i>16</i>

Implementation Guideline for Policies C1 to C9

<i>Policy C 4</i>	<i>Small-Scale Intensification</i>	<i>17</i>
	<i>Policy Explanation</i>	<i>17</i>
	<i>Implementation</i>	<i>18</i>
	<i>Forms of Small-Scale Intensification</i>	<i>18</i>
	<i>Limitations on Small-Scale Intensification</i>	<i>19</i>
	<i>Reflecting the Policy in Official Plans</i>	<i>20</i>
	<i>Reflecting the Policy in Zoning By-laws</i>	<i>20</i>
	<i>Small-Scale Intensification and Community Planning Areas</i>	<i>22</i>
 <i>Policy C 5</i>	 <i>Alternative Development Standards</i>	 <i>23</i>
	<i>Policy Explanation</i>	<i>23</i>
	<i>Implementation</i>	<i>23</i>
	<i>Reviewing Standards</i>	<i>23</i>
	<i>Official Plan Policies</i>	<i>24</i>
	<i>Supporting Guideline</i>	<i>24</i>
 <i>Policy C 6</i>	 <i>Housing on Government Lands</i>	 <i>25</i>
	<i>Policy Explanation</i>	<i>25</i>
	<i>Implementation</i>	<i>25</i>
	<i>Housing Mix Targets</i>	<i>25</i>
	<i>Geographic Application</i>	<i>26</i>
 <i>Policy C 7</i>	 <i>Sufficient Supply of Land</i>	 <i>27</i>
	<i>Policy Explanation</i>	<i>27</i>
	<i>Implementation</i>	<i>27</i>
	<i>Projection Process</i>	<i>28</i>
	<i>Longer-Term Supply</i>	<i>28</i>
	<i>Short-Term Supply</i>	<i>28</i>
	<i>Infrastructure and Other Servicing</i>	<i>29</i>
	<i>Monitoring</i>	<i>30</i>
 <i>Policy C 8</i>	 <i>Alternative Approaches</i>	 <i>31</i>
	<i>Policy Explanation</i>	<i>31</i>
	<i>Implementation</i>	<i>32</i>
	<i>Examples of Alternative Approaches</i>	<i>32</i>

Implementation Guideline for Policies C1 to C9

<i>Policy C 9</i>	<i>Allocation of Housing Needs</i>	34
	<i>Policy Explanation</i>	34
	<i>Implementation</i>	34

Appendix

<i>A</i>	<i>Glossary</i>	35
<i>B</i>	<i>Example of Monitoring Report</i>	36
<i>C</i>	<i>Housing Policy Priority:</i>	
	<i>Using Government Land for Housing</i>	48

1

INTRODUCTION

The purpose of this implementation guideline is to provide information on the intent of the policies under the Housing Goal (C 1 through C 9), and to illustrate ways in which they can be implemented. The guideline should be read in conjunction with the Projection Methodology Guideline, which provides detailed information on how to project future housing needs, and the Information Bulletin that the Ministry of Housing publishes annually showing affordable prices and rents for housing market areas.

Overview

The Housing Goal is "to provide opportunities in each municipality for the creation of housing that is affordable, accessible, adequate and appropriate to the full range of present and expected households in the housing market area." The province wishes to ensure that the land use planning process facilitates the provision of the housing required to meet the needs of Ontario's population in coming years.

The Housing Policies set out five key areas for action by municipalities that together form a comprehensive strategy for achieving the goal. Municipalities are expected to:

- plan for housing needs, in particular the need for affordable housing, to be met through development and intensification;
- maintain an adequate supply of land for residential development;
- consider development standards that facilitate affordable housing and more compact urban form;
- in addition to promoting intensification in accordance with the policies under goal B, permit small-scale intensification beyond the second units already permitted under the *Residents' Rights Act*, 1994; and
- facilitate the use of surplus government sites for a range of housing types.

The Housing Policies are designed so that when implemented, planning documents will create an environment in which the Housing Goal can be met -- i.e, they will create the **opportunity** for a full range of housing types to be built. It is recognized that land use planning alone cannot ensure that housing will actually be built since this is also determined by market conditions. The Housing Policies do not provide a legal basis for municipalities to control initial or future prices of housing that is not by its form inherently affordable relative to other forms of housing.

The Housing Policies are based on the assumption that access to affordable and appropriate housing is a basic human right, fundamental to the well-being of all households and essential to healthy communities and economic prosperity. Land use planning mechanisms should not have the effect of restricting access to housing on the basis of the personal characteristics of current or future residents, or be used to restrict dwelling units on the basis of proposed tenure or funding mechanisms. This would create obstacles to the realization of the Housing Goal.

The Housing Policies replace the 1989 Land Use Planning for Housing Policy Statement in accordance with the transition provisions in policy G 2 and section 74.1 of the *Planning Act*. The Housing Policies have to be implemented in conjunction with other provincial policies in the Comprehensive Set of Policy Statements. Examples of policies that will often have to be taken into account are those relating to growth, settlement (B 8 to B 11), agricultural land (D 1) and transit support (B 5, B 6 and E 2).

Variation in Municipal Roles

A municipality's responsibilities for implementation of the Housing Policies will depend on the structure of municipal government in which it operates, and where it is located in the province.

In regional municipalities and in counties with upper-tier planning, the upper-tier governments responsibilities include:

- projecting and allocating overall housing and land supply needs, in consultation with the local municipalities;
- providing policies in their official plans that implement the provisions in the Housing Policies; and
- exercising their approval powers to ensure that local planning documents and decisions are consistent with the Housing Policies.

Local municipalities in areas with upper-tier planning should frame official plan policies to meet their share of housing needs and to otherwise implement the Housing Policies. As well, zoning by-laws and other planning documents will often need to be changed to be consistent with the Housing Policies.

Municipalities in areas without upper-tier planning will have to perform both upper-tier and lower-tier functions. Where a municipality (e.g., a separated city in a county) forms part of a broader housing market, implementation of the Housing Policies -- as with other planning matters -- requires intermunicipal discussion and co-operation.

The Housing Policies recognize that small, rural municipalities (i.e., local municipalities that have a population of less than 10,000 and are not close to urban centres) do not face the same housing pressures as other municipalities. Policy C 8 authorizes them to use simplified methods for achieving the Housing Goal (see "Alternative Approaches" below).

The Housing Policies apply to planning boards in northern Ontario and to any planning authorities that may be established under section 14.1 of the *Planning Act*. In this guideline, the term "municipalities" should be read as "municipalities and other planning jurisdictions."

Monitoring

Municipalities should regularly monitor the extent to which the objectives of the Housing Policies are being achieved. Procedures should be adopted to review the range of housing opportunities being provided through the planning approval process; the prices and rents of the housing being produced; and the rate of consumption of land for residential development. An annual or biannual report should be provided to council (see Appendix B to this guideline for an example). Additional information on monitoring and on the data available for this purpose is provided in the Projection Methodology Guideline.

2

POLICY

Explanation and Implementation

Policy C 1 Range of Housing Types

Policy C 1 says that:

"The opportunity for housing types to meet the present and expected needs of the full range of households in the *housing market area* will be provided."

"Housing market area" is defined by the Comprehensive Set of Policy Statement as:

"an area with a high degree of social and economic interaction which forms a separate and distinct market for accommodation. The housing market area generally is equivalent to the area within the boundaries of a regional municipality, county, separated municipality, city in the North, planning board, or planning authority. Where housing markets extend significantly beyond these boundaries, then the housing market area will be based on the larger market area."

The glossary in Appendix A reproduces the definitions from the Comprehensive Set of Policy Statements of all defined terms used in the Housing Policies.

Policy Explanation

Policy C 1 is the key policy from which the other Housing Policies flow. The objective is to ensure that municipal planning documents permit an appropriate range of housing types (e.g., detached, semi-detached, row, duplex, apartment; or low-, medium- and high-density) to meet housing needs over the longer term.

Implementation

This policy requires that municipalities develop planning policies based on an analysis of housing needs. This analysis should take into account the needs of current and anticipated future households; and a share of the needs of the housing market area if the municipality forms part of such an area (not just the needs of the immediate local area).

Housing Market Areas

As defined in the policy statement, a housing market area normally consists of the regional or county area in which a local municipality is located. This definition is based on the fact that decisions about planning to meet housing needs are best made by the same political structures that are responsible for land use planning.

However, where the functional housing market (i.e., the commutershed or labourshed) extends significantly beyond the county or regional boundaries, the broader area should be used as the starting point for housing needs analysis.

Examples can be found in eastern Ontario, where county boundaries often run north/south while journey-to-work patterns run east/west. Another example is the Greater Toronto Area, which includes five upper-tier municipalities (Metro, Durham, York, Peel and Halton) and thirty local municipalities. The GTA is considered a housing market area for the purposes of the Housing Policies.

A map showing the housing market areas is included with the Ministry of Housing's annual Information Bulletin.

Municipal Roles

Under policy C 9 (see below), the projection and allocation of housing needs for a county or regional area is the responsibility of the county or regional government. This work should go hand-in-hand with the projection and allocation of population and employment, and should take into account other provincial policies relating to growth, settlement and infrastructure.

While the ultimate responsibility for these decisions rests with the upper-tier council, this does not mean that a "top down" process is intended. Dialogue between the two tiers of government is necessary to ensure the development of appropriate estimates. Regional or county advisory working groups composed of municipal staff are often useful in this regard.

In instances in which the housing market area deviates significantly from upper-tier boundaries, municipalities should consult with their neighbours to determine the population, employment and housing needs for the broader area. Intermunicipal advisory working groups are often useful in this regard.

Projecting Housing Needs: Methodology

The Projection Methodology Guideline describes a standard approach for projecting population, housing needs and employment, and the associated land requirements. It also presents simpler methodologies appropriate for use by smaller municipalities.

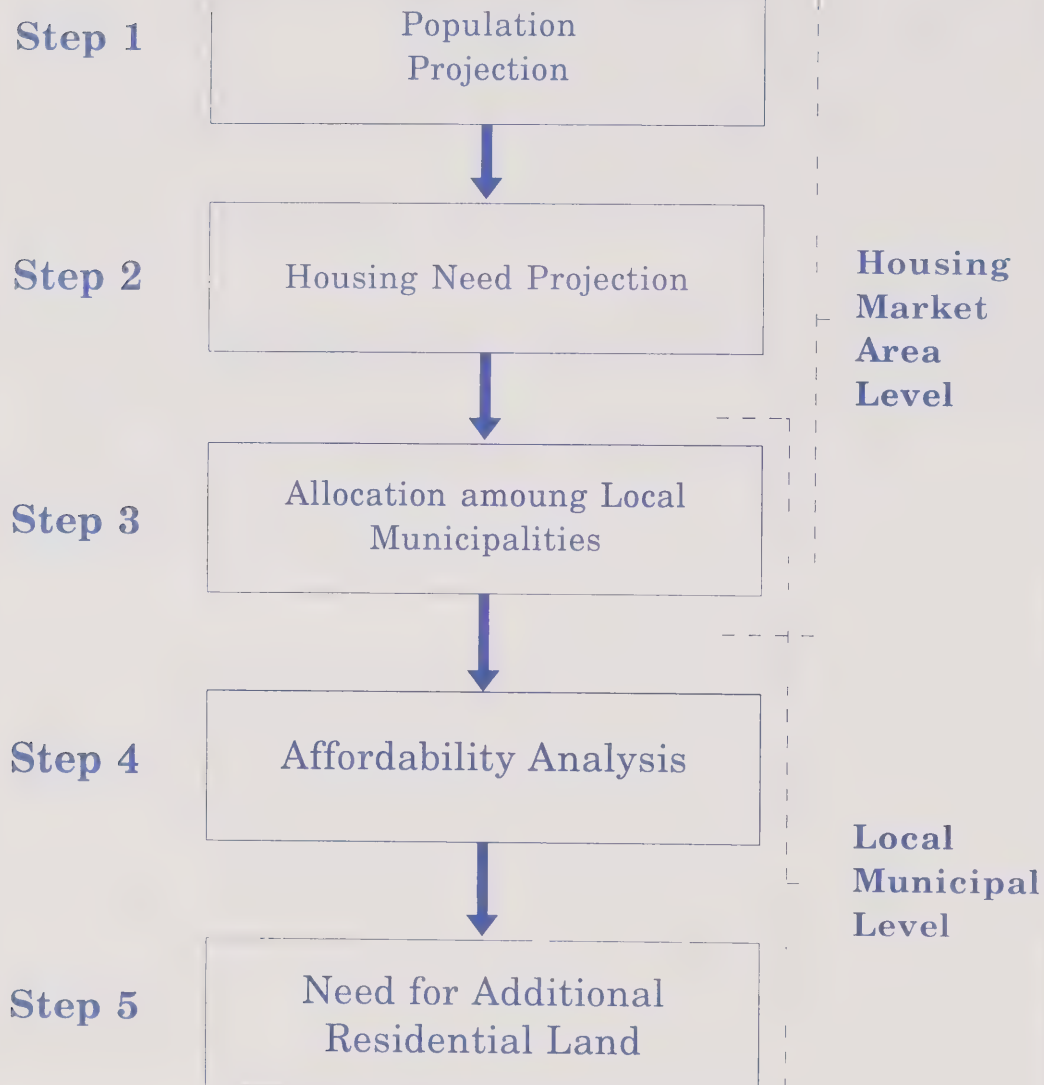
The approaches set out in the Projection Methodology Guideline are meant as "best practices." They are known and acceptable to provincial approval authorities. However, municipalities can employ other methodologies where they can demonstrate that these would provide a more realistic measure of present and future housing needs.

The standard methodology is summarized in Figure 1. The steps are as follows:

1. Develop a population projection by age group for the housing market area, based on reasonable assumptions about natural increase and net migration. The projections by region, county and district prepared by the Ministry of Finance are available and can be used for this purpose.
2. Project the number of households by age of household maintainer ("head") and dwelling type, based on observed rates of household formation and dwelling type preferences for the housing market area.
3. Calculate the housing requirements by dwelling type by subtracting from the projected households calculated in step 2, the number of units in the existing housing stock, allowing for vacancies and losses and taking account of the potential number of units realizable from intensification.
4. Allocate the housing requirements calculated in step 3 among the component municipalities. This should be done by the regional or county council in consultation with the local municipalities, or through intermunicipal discussions where there is no upper-tier planning authority whose boundaries approximate the boundaries of the housing market area. (The factors to be considered are discussed under "Allocation of Housing Needs" below).
5. Once a local municipality knows its share of the housing market area's housing requirements, an analysis should be conducted to ensure that the affordability targets set under policies 2(a) and 2(b) can be met. If necessary, the mix of housing forms and densities should be adjusted.
6. Finally, the adjusted housing requirements should be translated into the amount of additional land that needs to be designated.

Further detail on each of these steps is provided in the Projection Methodology Guideline.

Figure 1
Housing Projection Methodology
Overview



Reflecting Needs in Planning Documents

Upper- and lower-tier official plans should designate sufficient residential land in each density category (e.g., low-, medium-, high-density) to permit achievement of the range of housing, affordability target and land supply requirements of the Housing Policies.

The official plans should provide a breakdown of the expected residential growth. For example, an official plan for a rapidly growing municipality might provide for 5 to 10 per cent of required dwelling units to come from small-scale intensification, 30 to 35 per cent from redevelopment and 60 to 65 per cent from new development. Of the units to be provided by "greenfield" construction, 40 to 45 per cent might be low-density (single-detached), 40 to 45 per cent medium-density (row houses, low-rise apartments) and 15 to 20 per cent high-rise apartments. Details on how these figures were derived should be provided in an appendix to the official plan, or in background studies.

The extent of the breakdown by type will vary with the complexity of the housing market in which the municipality is located.

Numerical targets identify for the public (including residents and developers) a municipality's plans for the type and quantity of housing needed to accommodate future growth. Targets also provide a basis for a municipality to evaluate its performance with respect to actual housing production. Building permits or dwelling starts and completions can be compared with targets to determine whether objectives are being met. The results can then be taken into account in the review of site-specific development applications and in the next comprehensive review of the official plan.

The range of housing will, of course, vary from municipality to municipality. In smaller urban municipalities, the range might be from single-detached houses to low-rise apartments, while in a rural municipality, it might be from large estate lots to small-lot singles and semis.

Zoning by-laws and other subordinate planning documents will need to be modified to implement the official plan policies. For example, if 800 of the 3,000 units needed over the next five years are to come from high-density redevelopment, the municipality should consider amending the zoning by-laws for the areas designated for such structures. "Pre-zoning" in advance of specific development applications is not a requirement. It can, however, streamline the planning process, avoid some of the cost that site-specific rezonings entail and clarify for all concerned future plans for the area.

The standards included in zoning by-laws and other subordinate planning documents should be reasonable and should not be arbitrarily set so high as to exclude a residential use that is to be permitted. Standards should be designed to address the physical impacts of development and intensification activity.

Policy C 2(a) Minimum Affordability Target

Policy C 2(a) says that:

"Opportunities will be provided for no less than 30 per cent of new dwelling units created through *development*₄ and *intensification*₂ to be *affordable housing*."

Defined terms used in the policy are:

"Development₄ means the creation of new dwelling units other than through intensification₂."

"Intensification₂ means the creation of new dwelling units in existing buildings or on previously developed, serviced land and includes redevelopment and small-scale intensification."

"Affordable housing means accommodation which is affordable to households with incomes in the 1-60 percentiles of the income distribution for the housing market area, including not-for-profit housing."

It should be noted that the word "development" is defined four different ways in the Comprehensive Set of Policy Statements. In the Housing Policies, it refers to the creation of new dwelling units through "greenfield" construction -- i.e., excluding intensification. Certain activities (e.g., activities that create or maintain infrastructure authorized under an environmental assessment process) are expressly excluded from all the definitions of development.

Policy Explanation

The objective of policy C 2(a) is to create the opportunity for at least 30 percent of new dwelling units to be affordable to middle- and lower-income households (i.e., the 1-60 percentiles of the household income distribution for the housing market area).

A full range of opportunities for housing should be provided, not just for the upper end of the 1-60th percentiles. To the extent feasible, the new affordable units should be distributed across the middle- and lower-income range.

It should be noted that the policy states that **at least** 30 percent of new units are to be affordable. The Housing Policies should not be interpreted as providing a basis for setting an

upper limit on housing opportunities **at** 30 percent. In accordance with requirements in policy C 1 for planning to meet housing needs, the percentage will be higher than 30 percent where analysis indicates that this is appropriate.

Implementation

Affordability Analysis

The primary responsibility for assessing whether the initial projection of housing densities and types requires adjustment to meet the affordability target rests with the local level of municipal government.

Once a municipality's share of the housing needs for the housing market area has been determined, an analysis should be done to ensure that the housing types envisaged would result in a minimum 30 per cent of the housing opportunities being affordable. The steps involved are as follows:

1. Conduct a study of the local housing market to determine which housing types are likely to command rents and prices that are affordable according to the Ministry of Housing's Information Bulletin.
2. Review the initial results of the housing types allocated to the local municipality to see whether a minimum 30 percent of the units for which opportunities are being provided would be affordable.
3. If the answer is no, the mix of housing types should be adjusted to provide opportunities for a sufficient number as well as a mix and range of affordable housing units suited to identified needs.

Detailed information on how to conduct an affordability analysis is provided in the Projection Methodology Guideline.

Key strategies for encouraging affordability include density (generally medium- and higher-density ranges), lot size and built form restrictions (frontage, setbacks, height limits, etc.). Municipalities should ensure that density, lot and built form criteria do not serve as unnecessary barriers to housing affordability.

The municipality may also promote affordability by specifying maximum unit sizes for certain unit types such as apartments and townhouses with various bedroom counts. Unit size restrictions can contribute to the actual affordability (rent/price) of the unit, and to the relative affordability of the housing type by creating an opportunity for smaller, well designed units that could be expected to sell at the low end of the market range for the unit type.

The municipality can also use official plan policies, zoning by-laws and other development controls to support innovative standards which can contribute to housing affordability and a mix

and range of housing types.

The "new dwelling units" referred to in this policy and in policy C 2(b) can be created through development or intensification. The reference is to units intended for use as a principal residence. Second homes are not included.

When projecting and monitoring small-scale intensification activity, the units to be counted are those where a building permit will be required in connection with the creation of the unit. In the case of apartments in houses, this would include existing second units for which building permits would be needed to comply with fire safety requirements of the Ontario Building Code or the Ontario Fire Code.

While it will vary from municipality to municipality, the number of new dwelling units added annually through small-scale intensification is unlikely to exceed one percent of the existing housing stock. Further information on how to estimate future production of small-scale intensification units is found in the Projection Methodology Guideline.

Reflecting Targets in Planning Documents

Subject to policy C 3, "Community Planning Areas," municipalities may distribute the opportunities for affordable housing on either a comprehensive basis, or a site-by-site basis, or both.

A municipality should provide for affordable housing opportunities where setting out the densities and range of permitted residential uses in the official plan. In this way, planning for affordable housing is done as an integral part of the land use planning process. The official plan and the supporting background documents should indicate clearly how the affordable component will be achieved.

Consideration should be given to policies that ensure that development proceeds in a manner that creates diversified residential communities. An example would be a policy that medium densities shall be permitted throughout low-density areas. Another would be a policy that medium- and high-density and affordable housing shall, wherever possible, be constructed at the same time as or before low-density units.

A site-by-site approach may be warranted in some circumstances. For instance, when densities are all relatively high or low, specific changes in unit configurations may be needed for affordable housing objectives to be met. In this case, the municipality may require that individual development applications contribute to meeting affordable housing objectives. The official plan policies would set out:

- what types of development should have an affordable housing component (e.g., all development over a certain size);
- how large the affordable housing component in such development should be;
- what information should be provided by applicants (market studies, etc.) to demonstrate the affordability of dwelling units in the proposed development.

Servicing Constraints in Rural Areas

It is recognized that servicing constraints may pose challenges for meeting affordability targets in some rural municipalities. The means (in declining order of priority) by which planning policies can address the Housing Policies in unserviced areas are:

1. providing for the affordable component through intensification or affordable forms of new development in already serviced areas;
2. extending municipal services within settlement areas;
3. planning for affordable forms of rural development on septic or communal services in rural hamlets where it can be demonstrated that this is feasible and consistent with the policies under goal B.

Policy C 2(b) Low-Income Sub-Target

Policy C 2(b) says that:

"Opportunities will be provided for, wherever feasible, no less than half of the new housing required through policy C 2 (a) to be affordable to the lowest 30th per cent of the household income distribution for the *housing market area*. Full use will be made of innovative *development*₄, and *redevelopment*, and *small-scale intensification*, public lands, government programs and other available tools to implement this provision."

Defined terms not used previously in this guideline are:

"Redevelopment means the creation of new development units on land previously used for residential or non-residential purposes in existing communities where demolition of the previous structure is to take place or has taken place."

"Small-scale intensification means residential intensification which adds dwelling units without redevelopment and includes infill; rooming, boarding, and lodging houses; and apartments in houses."

Policy Explanation

As noted above, the intent of the Housing Policies is that a full range and mix of housing types be provided and that affordable housing opportunities be distributed across the middle- and lower-income range. The lower-income "sub-target" in policy C 2(b) is designed to support this objective.

Implementation

To be consistent with this policy, municipalities should be able to show that they have made full use of available tools to encourage a supply of new housing affordable for households in the lowest 30 per cent of the regional income distribution. Examples of making full use of the tools might include:

- initiating affordable housing demonstration projects;

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- showing openness to innovative development and redevelopment proposals with an affordable housing component;
 - amending planning documents on a broad basis in accordance with policy C 4 to make small-scale intensification a permitted use in appropriate residential areas;
 - facilitating the development or redevelopment of municipal, provincial and other public lands for affordable housing where they are suitable and available for this purpose;
 - undertaking public education campaigns to deal with NIMBY;
 - creating opportunities for assisted housing providers.

The policy recognizes that there may be circumstances in which, despite the planning efforts of the municipality, it is not possible to achieve prices and rents at or below the sub-target threshold without assistance programs. Municipalities should provide in their planning documents and background studies a clear indication that they have complied with the intent of policy C 2(b) either by achieving the sub-target or at least making full use of the approaches outlined above in attempting to do so.

Policy C 3 Community Planning Areas

Policy C 3 says that:

"The opportunities referred to in policies C1 and 2 will be provided in each *community planning area*."

"Community planning area" is defined as:

"an area defined by a municipality or planning board for the purpose of undertaking comprehensive land-use planning. Such areas may vary in geographic size, but are generally smaller than the entire municipality but larger than a site-specific development application."

Policy Explanation

This policy requires that whenever secondary plans or other similar large-scale, area-specific official plan amendments are prepared, planning policies create the opportunity for a full range of housing types with at least 30 per cent of the new units being affordable in accordance with policy C 2.

The policy is designed to ensure that new communities and large redevelopment areas are planned in an inclusive manner and that the obligation to permit affordable housing is not "exported" from one planning area to another. Housing is a critical component of planning a community, and it is important that planning for housing occur at the same time and for the same areas as planning for other land use matters.

Implementation

What is Meant by "Community Planning Area"?

Community planning areas are the areas for which secondary plans and other large-scale, area-specific land use planning documents addressing matters affecting housing affordability (density, unit type, etc.) are prepared. They are generally much larger than a single development application or plan of subdivision. They cover areas which are expected to undergo a substantial amount of development or redevelopment activity and are typically built out over the medium term (say, ten years).

The size of community planning areas will vary depending on location. In newly-urbanizing, suburban locations they may be fairly large land areas such as 500 ha concession blocks. Secondary plan areas for redevelopment districts in central or downtown locations will normally take in smaller areas. It is reasonable to treat the entire local municipality as a community planning area in a smaller municipality that does not have sub-areas where substantial growth is anticipated.

Policy C 3 does not apply to partially-developed community planning areas covered by secondary plans reviewed and approved within the context of the 1989 Land Use Planning for Housing Policy Statement.

Distribution of Affordable Housing

It is intended that municipalities have flexibility in determining in their planning documents where various types of housing are to be permitted within community planning areas, subject to there being adequate opportunities for affordable housing within each community planning area.

Some municipalities may divide themselves into secondary plan areas and specify a mix of broad housing types (e.g., low-, medium-, high-density) expected to yield 30 per cent affordable housing. Others may have a general policy requiring every project above a certain size to include a full range of housing types, including the required amount of affordable housing. Either approach could satisfy the policy.

A variety of provincial and municipal objectives will, of course, be taken into account when developing planning policies affecting the distribution of housing types within a community planning area. For example, the transit objectives in policies B 5 (efficient use of land), B 6 (efficient transportation systems) and E 2 (efficient transportation modes) are important when considering where to locate denser forms of housing in a community planning area.

Policy C 4 Small-Scale Intensification

Policy C 4 says that:

*"Small-scale intensification will be permitted in all areas permitting residential use, except where *infrastructure* is inadequate, or there are significant physical constraints. This is in addition to *Planning Act* provisions permitting certain houses to have two residential units."*

As noted previously, "small-scale intensification" is defined as:

"residential intensification which adds dwelling units without redevelopment and includes infill; rooming, boarding, and lodging houses; and apartments in houses."

"Infrastructure" is defined by the Comprehensive Set of Policy Statements as:

"physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities."

Policy Explanation

Except where a municipality is entirely built up, planning for housing needs involves taking into account a combination of development and intensification. Policies B 5 and B 8 to B 11 provide support for intensification, both residential and non-residential, and the related implementation guideline outlines approaches for identifying potential sites and providing opportunities for intensification. Approaches to estimating intensification potential are described in the Projection Methodology Guideline.

For the purposes of the Housing Policies, intensification is the creation of new dwelling units in existing buildings or on previously developed serviced land. This can take the form of redevelopment (demolishing existing buildings); conversion of industrial, commercial or institutional buildings to residential use; and small-scale intensification. The last adds dwelling units within existing buildings or on previously developed, serviced land, without the necessity of demolition.

The objective of policy C 4 is to ensure that reasonable opportunities for small-scale

intensification are provided. Depending on the circumstances, such opportunities do not have to be provided everywhere. Small scale intensification may not be appropriate in certain areas due to inadequate infrastructure or significant physical constraints.

Creating opportunities for small-scale intensification is important because it:

- can accommodate smaller households and help meet the need for affordable housing;
- often means reusing existing structures, extending their useful life;
- can offset population declines in older neighbourhoods and make better use of existing infrastructure (including transit);
- can provide rental accommodation in areas that might not otherwise have rental housing; and
- tends to occur incrementally, in a manner sensitive to the existing physical character of neighbourhoods (existing set-backs, building heights and lot coverages can be respected).

Implementation

Forms of Small-Scale Intensification

The definition of "small-scale intensification" for the policy specifically mentions three forms -- rooming, boarding and lodging houses ("RBLs"); apartments in houses; and infill. Other forms that municipalities may wish to consider include installation of dwelling units above existing commercial space, conversion of outbuildings to residential use and installation of garden suites.

- **Rooming, boarding and lodging houses.** RBLs are residential premises that consist of a number of lodging units, each operating as a separate housekeeping unit but sharing common facilities such as a kitchen or a bath. Municipalities typically only classify a premise as an RBL if it has more than a certain number of lodgers (e.g., four or five.).

RBLs can be purpose-built, but are most often created through conversion. They are most likely to occupy detached houses, although other forms of housing may sometimes have the physical potential to accommodate this use.

- **Apartments in houses.** Amendments to the *Planning Act* made by the *Residents' Rights Act*, 1994, make the addition of a second unit in detached, semi-detached and row houses a permitted use where the house is on public sanitary sewers and where building, fire and reasonable planning standards are met. Municipal planning documents should be amended to reflect the legislation as the opportunity arises. (Information on the application of this legislation and the regulations made under it is available in the "Apartments in Houses Municipal Guide," available through the Ontario Government Bookstore or the Ministry of Housing.)

Policy C 4 is concerned with apartments in houses in situations not covered by the

legislation, including situations where two or more dwelling units might be added to detached, semi-detached and row houses, and where dwelling units can be added in other types of residential structures (e.g., duplexes, triplexes).

- **Infill.** This refers to housing created between or behind existing structures. Unlike redevelopment, infill typically does not involve the demolition of existing structures other than ancillary buildings. Infill may or may not involve the creation of new lots.

Unlike RBLs and apartments in houses, "infill" does not refer to a form of housing with its own unique physical characteristics. Infill can involve the construction of traditional housing types (e.g., row houses, detached houses) where planning standards have sufficient flexibility.

Examples of infill include:

- constructing a block of rowhouses on an underutilized portion of a property occupied by an apartment building;
- building a detached house between two existing houses on a lot created through severance (consent);
- constructing a small detached house behind an existing house (the new house could sit on its own lot if direct access is provided to a public street via a laneway, or has direct frontage through a "key lot" system); and
- putting a horizontal addition onto an existing building which significantly increases lot coverage and results in the creation of new dwelling units.

It should be noted that certain types of redevelopment as defined for the Housing Policies do not involve large-scale neighbourhood change. An example would be demolishing a detached house on a large lot and erecting two semi-detached houses in its place. Municipalities may wish to facilitate small-scale redevelopment on the same basis as small-scale intensification.

This policy is not intended to apply to areas where the predominant use as identified in municipal planning documents is agriculture, resource extraction, or some other non-urban use.

Limitations on Small-Scale Intensification

Policy C 4 specifies that small-scale intensification is to be permitted except where certain limitations -- inadequate infrastructure or significant physical constraints -- apply.

"Infrastructure" refers to physical services and facilities such as sewage and water works, and transit and transportation facilities. It does not include social service facilities. Infrastructure would be inadequate if the services or facilities are not present, or if the new dwelling units would overload the system so as to cause problems.

The fact that infrastructure is old does not necessarily mean that it is inadequate. Small-scale intensification often occurs in older neighbourhoods where infrastructure is underutilized or where greater density would actually mean better utilization of existing services (e.g., public transit).

In assessing infrastructure capability, consideration should be given to whether deficiencies can be overcome through conservation efforts, or through timely renewal of infrastructure where this would be cost-effective.

For the purposes of policy C 4, significant physical constraints are characteristics of the physical environment or the existing built form that severely limit the potential for a particular form of housing. Examples of the former would be proximity to a floodplain or a natural heritage feature. Examples of the latter would be small lots, tight building setbacks and inadequate on-site parking.

Reflecting the Policy in Official Plans

Upper-tier official plans should include policies supportive of small-scale intensification.

In addition to including policies supportive of this source of housing, local official plans should set out criteria to be used in evaluating where opportunities for small-scale intensification should be created and should identify areas where it is to be permitted:

- **Types of small-scale intensification.** Local official plans should identify the types of small-scale intensification to be permitted, so as to facilitate the creation of opportunities for small-scale intensification projects without having to seek an official plan amendment. The types of small-scale intensification to be permitted will vary from municipality to municipality. However, at a minimum, local official plans should specify where RBLs, apartments in houses (beyond those authorized by the *Residents' Rights Act*) and infill are to be permitted.

Definitions of small-scale intensification types actually included in local official plans may provide a finer breakdown of the housing types to be permitted (e.g., making a distinction between extra units added to detached houses and extra units added to apartment buildings, or distinguishing between different types of RBLs based on the services provided and number of residents).

- **Establishment of criteria.** Local official plans should identify the criteria that are to be used in evaluating where a particular form of small-scale intensification is to be permitted. These criteria should provide opportunities in locations where the limitations noted above (inadequate infrastructure, or significant physical constraints) do **not** apply.

Examples of criteria that are designed to provide opportunities in locations where infrastructure is adequate include the availability of public transit, and adequate sanitary sewers and water. Generally speaking, these criteria will apply uniformly to all forms of small-scale intensification.

Criteria that are designed to provide opportunities in locations where significant physical

limitations are not present are more likely to vary from one type of small-scale intensification to another. In the case of RBLs, for example, some of the criteria that may be used include appropriate structure type (e.g., detached house), minimum floor area, maximum number of residents and availability of on-site parking.

Criteria should not be based on factors other than inadequate infrastructure or significant physical constraints. For instance, small-scale intensification should not be restricted to particular locations where the only purpose is to eliminate opportunities for that type of housing in "low density" residential neighbourhoods.

- **Identification of areas.** Local official plans should also identify the areas where each type of small-scale intensification is permitted. Two possible approaches are:
 - permit a particular type of small-scale intensification in all designations which permit residential use; or
 - permit a particular form of small-scale intensification in certain residential designations, but not in others.

The latter approach may be appropriate where the application of official plan criteria would result in the total exclusion of a particular type of small-scale intensification from one or more designations. For example, it may be appropriate to exclude infill development from the "estate residential" land use designation in the local official plan where the absence of municipal sanitary sewers has been identified as a constraint.

Within a local official plan designation that allows a particular form of small-scale intensification, consideration of the criteria discussed above would ensure that opportunities for that type of housing (created through the zoning process or minor variances) would be restricted to appropriate locations.

Local official plan policies related to small-scale intensification should be reviewed periodically, since conditions that influence the creation of these policies change over time. Municipalities should also evaluate how many small-scale intensification projects have been able to proceed without requiring official plan amendments. If the number is small despite significant interest in this type of housing, it may be appropriate to reconsider the official plan criteria.

Reflecting the Policy in Zoning By-laws

Local official plan policies in support of small-scale intensification create an environment within which it is easier to create this type of housing. Where a particular project complies with the official plan, planning approval need only involve a rezoning or a minor variance, provided that the project is covered by an appropriate official plan designation or the project meets the applicable official plan criteria.

Municipalities may also wish to amend their zoning by-laws to create opportunities for one or more forms of small-scale intensification without the need for proponents of a project to seek site-specific planning approvals. This can be achieved through "pre-zoning" for the use and setting reasonable zoning standards.

To be consistent with policy C 4, the zones where a particular form of small-scale intensification is to be permitted should be those that:

- are encompassed by an official plan designation allowing that form of small-scale intensification; and
- include at least some locations within the zone that can meet the official plan criteria.

Within zones where a particular form of small-scale intensification is to be permitted, standards should be reasonably related to the nature of that use and should provide opportunities for that type of housing in locations where the applicable official plan criteria can be met.

Of course, zoning standards can continue to fulfill other functions. For example, frontyard setback and building height requirements can ensure that housing created as a result of small-scale intensification respect the physical character of the surrounding area. On the other hand, standards should not make distinctions based on the personal characteristics of occupants (e.g., making distinctions between owner and non-owner occupied dwellings).

In zoning by-laws, it would be appropriate to treat infill somewhat differently from other types of small-scale intensification since, as noted above, infill does not refer to a housing form with its own unique characteristics. It is possible to provide for infill in a zoning by-law simply by allowing for less restrictive standards (e.g., related to lot frontage and the number of houses on a lot) in existing neighbourhoods, and by increasing the variety of housing forms permitted (e.g., allowing semi-detached houses).

Small-Scale Intensification and Community Planning Areas

Permitting small-scale intensification need not be linked to the community planning area concept discussed under policy C 3 since official plan designations and zoning districts could well overlap community planning areas. In some instances there may be reasonable opportunities for a type of small-scale intensification across an official plan designation or zoning district, but not within a particular community planning area.

Policy C 5 Alternative Development Standards

Policy C 5 says that:

"The use of residential development standards that facilitate affordable housing and compact urban form is encouraged in development₄ and redevelopment."

Policy Explanation

Residential development standards are the rules that municipalities set for the design and construction of new subdivisions and major redevelopments. They include rules relating to lot sizes and frontages; siting of houses on lots; street pavement and right-of-way widths; on- and off-street parking requirements; the number and location of sidewalks; and the location of sewer, water and electrical lines.

The objective of this policy is to ensure that standards are reviewed and adopted that are conducive to compact forms of development and, at the same time, to increasing the availability of affordable housing. Such standards also support the environmental and growth management policies of goals A, B, D and E of the Comprehensive Set of Policy Statements (including the densities conducive to transit in accordance with policies B 5, B 6 and E 2).

Examples of the standards that policy C 5 is meant to encourage include smaller lots and lot frontages; innovative lotting techniques; "tighter" house-to-house separations (across the street), street rights-of-way and pavement and boulevard widths; common utility locations; and rear lanes as an option.

Implementation

Reviewing Standards

All municipalities should regularly review their development standards to ensure that they are consistent with policy C 5. When reviewing standards, council should seek input not only from the municipal departments concerned, but also from other interested parties, such as the local development industry and public and private utilities. A broadly based advisory committee is one way to accomplish this.

In between reviews, municipalities should be prepared to consider development proposals that may depart from existing standards but incorporate the principles of policy C 5.

Official Plan Policies

Municipalities may wish to include provisions in their official plans dealing with alternative development standards.

As an example, one regional municipality has a provision in its official plan suggesting that local official plans contain policies for opportunities for altering municipal planning and engineering standards. The specific criteria suggested include:

- smaller lots;
- greater flexibility in the siting of houses;
- reduced road right-of-way widths;
- revised standards in the design of sidewalks, landscaping and other site improvements; and
- other zoning standards and practices within municipal jurisdictions.

Official plans should not contain provisions that would interfere with consideration of development standards that would facilitate affordable housing and compact urban form.

Supporting Guideline

Making Choices, a guideline issued by the Ministry of Housing and the Ministry of Municipal Affairs, provides useful ideas for a broad range of alternative development standards. The specific standards shown in the document are not mandatory, but are intended as an aid to municipalities when revising their standards. In applying the ideas in the guideline, a municipality will need to take into account local circumstances, including soil conditions, land prices, utility practices and climate (snowfall in particular). The latest available technical and cost information should also be considered.

The province will continue to monitor municipal development standards and projects in Ontario and elsewhere and disseminate information about them to municipalities and housing providers. As well, it will continue to review provincial program standards and requirements to ensure that they do not present obstacles to the adoption of appropriate development standards by municipalities.

Policy C 6 Housing on Government Lands

Policy C 6 says that:

"Where land owned by the provincial government is declared surplus and is suitable for housing, opportunities will be provided for the development of *affordable housing*. In the case of smaller sites where only one project can be accommodated, the opportunities will be for the development of *not-for-profit* housing. In the case of other sites, the opportunities will be for the development of housing serving a broader income range."

"Not-for-profit housing" is defined as:

"accommodation owned by public agencies or non-profit housing corporations, including non-profit co-operative housing corporations."

Policy Explanation

This policy is intended to support the "Housing Priority Policy" that the Ontario Government announced in 1992 for surplus provincial lands. (See Appendix C.) The policy governs the real estate operations of the provincial ministries and Crown agencies. It establishes a clear housing priority in the allocation of surplus government sites that are suitable for residential use.

The objective of the Housing Priority Policy is to increase the amount of land available for housing, in particular affordable housing. This assists municipalities in meeting their housing needs. Affordable units produced on government sites count toward the achievement of the affordability targets in policies C 2(a) and C 2(b).

Implementation

Housing Mix Targets

The Housing Priority Policy sets the following housing mix targets for residential development on government sites:

- Smaller sites should be used for not-for-profit housing. Smaller sites are those that can only accommodate one project, e.g., a 100-unit apartment building or a 20-unit townhouse development. What counts as a small site will vary from municipality to municipality. For

example, a 100-unit apartment building might be considered small in a major urban centre, but not in a small town. Similarly, a 20-unit townhouse project might be considered small in a small town, but not in a rural village.

- Larger sites should have no less than 70 per cent affordable housing, with at least half of this (35 per cent overall) being targeted for not-for-profit housing, and the other half being affordable, private housing (ownership or rental). The remaining 30 per cent of the units overall will be unspecified market housing. Significant variations from the 35/35/30 objective should only occur where justified by community need or physical site constraints.
- In the case of extremely large government sites (generally, those involving more than 3,000 housing units), the overall objective will be to provide a full range of housing types, with the precise mix to be determined as part of the planning process.

The purpose of Housing Policy C 6 is to ensure that the housing mix targets are taken into account by planning authorities when making land use planning decisions.

This does not mean that provincial sites will be developed outside the approval process under the *Planning Act*. Whether a particular site is suitable for housing, for example, should be determined on the usual basis considering adjacent land uses, availability of infrastructure, environmental concerns, etc. What it does mean is that for sites found to be suitable for residential development, the housing forms and densities required to achieve the housing mix targets should be given favourable consideration in the absence of demonstrable land use constraints limiting the densities and unit types that can be permitted.

There is no requirement to "pre-zone" government lands for housing, but this may result in future time savings.

Geographic Application

The Housing Priority Policy and hence policy C 6 are intended to apply to the urban and urbanizing areas of the province only. This includes all municipalities in regional municipalities and the London and Windsor census metropolitan areas, plus all cities with a population over 25,000. See Appendix C for a list of the municipalities affected.

Policy C 7 Sufficient Supply of Land

Policy C 7 says that:

"A sufficient supply of land for *development*₄ and *intensification*₂ will be maintained in accordance with policies under Goal B to allow for the housing types required to meet the needs of the full range of present and expected households in the *housing market area*. Specifically:

- municipalities will maintain at least a continuous ten-year supply of land designated for residential *development*₄ or *redevelopment* and
- where *development*₄ is to occur, municipalities will maintain at least a continuous three-year supply of land for such *development*₄ in draft approved/registered plans of subdivision."

Policy Explanation

The objective of this policy is to ensure that there is an adequate supply of residential land designated, draft approved and registered to ensure that shortages do not develop, thereby forcing up the price of housing.

Implementation

Maintaining an adequate supply of residential land involves three main steps:

- projecting housing needs and translating them into land requirements;
- adopting servicing plans to ensure that designated lands can be developed or redeveloped in a timely fashion;
- ongoing monitoring to identify potential shortages and revision of planning documents to avoid the shortages.

In implementing policy C 7, it is, of course, necessary to take into account the environmental and growth management policies under goals A, B, D and E (including a balanced and diversified transportation system).

Projection Process

The starting point for estimating the amount of land needed for residential development is the projection and allocation of housing needs for the housing market area.

The amount of residential land required to be designated will be net of the number of units that can be built under existing designations and through intensification. The assessment of the number of potential units from intensification should not be based simply on the sites that are designated for redevelopment, but a realistic assessment of whether intensification will actually result in the housing being built. This includes consideration of such factors as past intensification activity, future market conditions and the extent to which planning documents are being amended to facilitate intensification.

The resulting number of units is then divided by expected densities. The densities should be sufficient to accommodate the range and mix of housing incorporated in official plans in accordance with policies C 1, C 2(a), C 2(b) and C 9.

Longer-Term Supply

Policy C 7 requires municipalities to maintain both a long- and a short-term supply of land for residential development.

In terms of longer-term supply, a minimum ten years' supply of residential land should be designated at all times. The land use designations should allow the densities of residential development to create the opportunity for achieving the range of housing types in policy C 1 and the affordability targets in policies 2(a) and 2(b).

It will be necessary to designate more than a ten-year supply to ensure that the minimum is maintained as development occurs. If the official plan is updated every five years, a 15-year supply will normally need to be designated. An exception would be if there is provision for annual monitoring and replenishment through secondary plan approvals.

Short-Term Supply

The official plan should also include a commitment to maintain a three-year supply of lots and blocks on new plans of subdivision and in redevelopment plans in order to deal with rapid swings in the housing market. To the extent possible, a three-year supply should be maintained by unit type. This is to ensure a reserve of readily available land to prevent shortages and negative impacts on affordability should upturns in housing markets occur.

The land supply to be maintained by a particular local municipality in an area with upper-tier planning will be based on the housing need allocated to that municipality, which in turn will reflect the growth and servicing strategies for the region or county.

Infrastructure and Other Servicing

Planning for housing needs and residential land supply should be co-ordinated with the planning for infrastructure and other services. Phasing plans can be developed for the financing and implementation of necessary infrastructure to ensure that new residential growth occurs in an orderly and efficient manner.

Municipal servicing plans should answer such questions as:

- What is the capacity of existing services to handle anticipated future growth?
- What service improvements are necessary?
- How will they be financed to meet future needs?

The nature of servicing plans will vary between municipalities with full municipal services and municipalities with unserviced areas. For municipalities with municipal sewage treatment and water purification facilities, the servicing plan should detail:

- Expansions required to these facilities to accommodate the 20-year growth projections;
- Major trunks and other infrastructure such as pumping stations required to service specific areas;
- Ongoing improvements/maintenance to the existing system for future housing needs;
- Methods of financing servicing improvements.

For parts of municipalities where municipal sewage or water services are not available, the servicing plan should detail:

- Existing servicing problems to determine whether full municipal services are needed;
- How additional growth can be serviced and whether municipal services are needed to support the density necessary to achieve the affordable housing targets;
- Methods of financing servicing improvements;
- Areas where development on private services is acceptable and at what densities, identified in consultation with the Ministry of Environment and Energy.

In developing servicing plans to support the achievement of the Housing Goal, municipalities will also need to take into account other provincial policies, in particular the growth management and transit support policies.

Planning for housing needs and residential land supply should also be co-ordinated with the planning of services and facilities to meet social and human needs in accordance with policy B 1. In order to ensure that opportunities for new residential growth can be realized and are not unduly

delayed, municipalities should endeavor to address policy B 1 at the official plan stage rather than at the site-specific stage.

Monitoring

Monitoring is particularly important in maintaining a supply of land for residential development in order to avoid sudden shortages that could put pressure on housing costs. The three-year supply should be monitored by unit type to guard against possible shortages of specific housing forms (e.g., single-detached houses).

An example of a municipal land monitoring report prepared by the City of Niagara Falls is included in Appendix B. The Regional Municipality of Ottawa-Carleton has for a number of years conducted a survey of residential lands in various stages of the approvals process. In conjunction with CMHC, municipal planning departments and the province have recently developed a system to produce annual monitoring reports for the Greater Toronto Area.

In cases where monitoring reveals that the land is being absorbed at a rate faster than anticipated, development approvals should be expedited. Similarly, where it reveals that land is being developed at gross densities significantly lower than originally estimated, then amendments may be required to the policies and standards governing development densities.

The Projection Methodology Guideline provides further details on sources of data available to assist municipalities in monitoring the availability of land for housing.

Policy C 8 Alternative Approaches

Policy C 8 says that:

- "Alternative approaches to implementing Goal C may be used by:
- townships, villages and towns with populations below 10,000 other than:
 - villages and towns bounded by a township with a population of 10,000 or more;
 - townships bounded by a town or city with a population of 10,000 or more; and
 - those within a regional municipality or the Census Metropolitan Areas of London and Windsor; and
 - areas under the jurisdiction of planning boards except in those portions of planning areas that are cities or towns with a population of 10,000 or more."

For the purposes of the Comprehensive Set of Policy Statements, a regional municipality is:

"a regional municipality as defined by the *Regional Municipalities Act*, the Municipality of Metropolitan Toronto, the District Municipality of Muskoka and the County of Oxford."

Policy Explanation

While all municipalities should make planning for housing a part of their general land use planning program, this policy recognizes that housing conditions, growth pressures and staff resources are different in smaller, rural municipalities. It authorizes such municipalities to pursue alternative approaches to achieving the Housing Goal.

It does not confer an exemption from the provisions of the Housing Policies. Alternative approaches are simpler, more basic planning methods that are better suited to smaller, rural municipalities.

The starting requirement for qualifying under policy C 8 is that the municipality have a population of less than 10,000 according to the last municipal enumeration. Not all municipalities with a population under 10,000 qualify, however. If such a municipality is located in or near an urbanizing area, it may face growth pressures and will, accordingly, not come under policy C 8.

In general terms, the municipalities not qualifying are those in regional municipalities and those bordering municipalities with a population of 10,000 or more. The precise rule is laid out in the policy itself (see above).

Policy C 8 authorizes alternative approaches with respect to Housing Policies only. Smaller, rural municipalities continue to be subject to the full requirements of all other provincial policies, including the policies under goal B relating to development on public communal and individual on-site systems and the policies under goal D relating to agricultural severance activity.

Implementation

Limited Application of Certain Policies

As noted above, certain Housing Policies have limited application to small, rural municipalities:

- Such municipalities may use simpler methods to determine future housing and land needs for policies C 1, C 2(a), C 2(b) and C 6. (The methods are described in the Projection Methodology Guideline.)
- When defining community planning areas under policy C 3, it will generally be sufficient to treat the entire municipality as a single community planning area.
- Policy C 4, "Small-Scale Intensification," would tend to have limited application because of servicing constraints and because of the non-application of the policy to areas where agriculture is the predominant land use.
- Policy C 6, "Housing on Government Lands," applies only to municipalities in urban and urbanizing areas.

Examples of Alternative Approaches

For those Housing Policies that do apply, a municipality covered by policy C 8 would want to include a provision in its official plan indicating that council adopts the Housing Goal and will seek to achieve it through such policies as:

- encouraging opportunities for housing types to meet the present and expected needs of the full range of households;
- encouraging small-scale residential intensification, where it is practical;
- adopting non-exclusionary housing and land designation policies and reasonable zoning

standards;

- using residential development standards that facilitate affordable housing and compact development;
- maintaining a sufficient supply of land for residential purposes;
- encouraging more moderately priced housing forms on private/communally serviced land (while many lots must be large because of environmental constraints, the houses on those lots can still be modest in size).

Policy C 9 Allocation of Housing Needs

Policy C 9 says that:

"Upper-tier municipalities will allocate their projected housing needs among the lower-tier municipalities."

Policy Explanation

The purpose of this policy is to clarify that regional and county councils are to project the present and future housing needs of the region or county (or the region or county's share of the needs of a housing market area where the latter differs significantly from the region or county), as well as allocate the required housing types and densities among the constituent local municipalities.

Implementation

As a minimum, the following criteria should be considered when an allocation is being made:

- current shares of the housing market by type;
- the planned urban structure for the region or county;
- current and planned infrastructure;
- the availability of developable land;
- the potential for intensification in built-up centres;
- the provision of a range of housing types and the achievement of the affordability targets; and
- other provincial policies governing the designation of land for development.

While the ultimate responsibility for these decisions rests with the upper-tier council, this does not mean that a "top down" process is required. Dialogue between the two tiers of government is essential to ensure a sound basis for the policies adopted. Advisory staff working groups may be useful in this regard.

Further details on the allocation process are provided in the Projection Methodology Guideline.

Appendix

Glossary

The definitions shown below are drawn from the Comprehensive Set of Policy Statements.

Affordable housing:

means accommodation which is affordable to households with incomes in the lowest 60 per cent of income distribution for the housing market area, including not-for-profit housing.

Community planning area:

means an area defined by a municipality or planning board for the purpose of undertaking comprehensive land-use planning. Such areas may vary in geographic size, but are generally smaller than the entire municipality but larger than a site-specific development application.

Development₄:

means the creation of new dwelling units other than through intensification₂; the following are not considered development for the purposes of this definition:

- . activities that create or maintain infrastructure authorized under an environmental assessment process;
- . remedial works;
- . those works subject to the *Drainage Act*; and
- . good forestry practices in support of the implementation of the *Trees Act*.

Housing market area:

refers to an area with a high degree of social and economic interaction which forms a separate and distinct market for accommodation. The housing market area generally is equivalent to the area within the boundaries of a regional municipality, county, separated municipality, city in the North, planning board, or planning authority. Where housing markets extend significantly beyond these boundaries, then the housing market area will be based on the larger market area.

Infrastructure:

means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Intensification₂:

means the creation of new dwelling units in existing buildings or on previously developed, serviced land and includes redevelopment and small-scale intensification.

Not-for-profit housing:

means accommodation owned by public agencies or non-profit housing corporations, including non-profit co-operative housing corporations.

Redevelopment:

means the creation of new development units on land previously used for residential or non-residential purposes in existing communities where demolition of the previous structure is to take place or has taken place.

Regional municipality:

means a regional municipality as defined by the *Regional Municipalities Act*, and associated buildings and structures the Municipality of Metropolitan Toronto, the District Municipality of Muskoka and the County of Oxford.

Small-scale intensification:

means residential intensification which adds dwelling units without redevelopment and includes infill; rooming, boarding, and lodging houses; and apartments in houses.

Appendix

Example of Monitoring Report

The City of
Niagara Falls
Canada

A faint, light-colored illustration of a house with a chimney, serving as a background for the title text. The house has a gabled roof and a chimney on the right side. The text is centered over the house.

HOUSING MONITORING REPORT 1993

Planning & Development Department
May 30, 1994

NIAGARA FALLS HOUSING MONITORING REPORT 1993

Introduction

This report provides a community profile on housing production, residential land supply and related development issues in the City of Niagara Falls for the period ending December 31, 1993. This serves as a reference for housing agencies, developers and the public. In addition, the report responds to Provincial requirements that the City monitor land supply, range of housing produced, housing affordability and the development approval process. Information is presented in several sections, and where appropriate, data has been divided by Community Planning Districts (see Appendix I) to provide a better understanding of development and growth potential.

Section I - Residential Building Trends

Residential construction follows a cyclical building pattern which corresponds to various economic and social conditions experienced locally, regionally and provincially. The following Graph 1 illustrates the number and type of units resulting from residential building permits issued in Niagara Falls since 1971. If the cyclical pattern repeats, Niagara Falls should begin to experience an up-swing in the construction of new residential units. By using a 10-year average of residential units constructed it is possible to account for the high and low periods of activity. The 10-year average from 1984 to 1993 is 449 units per year which can be utilized to predict the future absorption rate for housing.

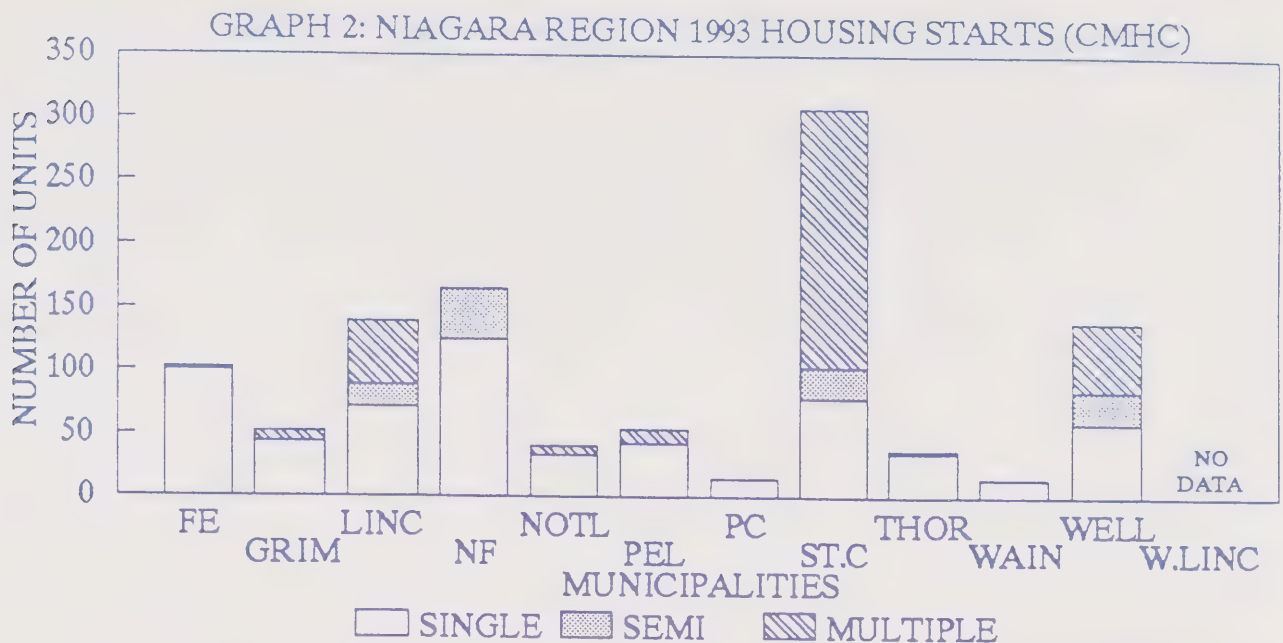
GRAPH 1: BUILDING PERMITS ISSUED FOR NEW RESIDENTIAL DEVELOPMENT
NUMBER OF UNITS BY TYPE



The reduced level of residential construction experienced provincially and region-wide during 1993 was also felt in Niagara Falls where the building permit total of 184 units was lowest for new residential construction since 1984. Canada Mortgage and Housing Corporation (CMHC) statistics indicate that, for all urban Ontario centres, there was a 20% decrease in residential starts during 1993 compared to 1992. The majority of this Provincial decline was represented in a 35% drop in multiple housing starts, most of this is attributable to the reduced

construction of government-assisted housing last year. Throughout Ontario, the construction of single-detached houses decreased 6% during the same time period.

In the Niagara Region, total starts decreased 39% in 1993 from 1992. Although Niagara Falls experienced a substantial drop in starts during the year (concentrated in the multiple housing category), single residential starts in the municipality were actually slightly greater than in 1992 and have been fairly stable over the past three years. Graph 2 presents residential starts information for the municipalities in the Region for 1993 which indicates that Niagara Falls was the leader in new construction of single-detached housing.



CMHC expects the new home market in the Niagara area to improve throughout 1994 but still remain well below pre-recession levels. Total starts are forecast to increase 11% over 1993 activity with single starts climbing 13%. Multiple unit starts are anticipated to grow 9%, primarily due to more government-assisted housing developments.

Reviewing these forecasts with respect to the possible implications for Niagara Falls, there are some positive signs for the coming year. It is reasonable to expect the City's share of residential construction in the Region to continue and perhaps even increase as other municipalities exhaust their land supply for new growth. Through the past six years, Niagara Falls has realized approximately 22% of total new residential units built in the Region. Given these considerations, building permits issued for single-detached homes are estimated for 1994 in the order of 150 units, while total starts are projected at approximately 280 new units. This forecast total for 1994 is shown on Graph 1. Currently, permit applications are being processed for three multiple residential projects totalling over 120 units and permits have been issued for 48 single and 10 semi-detached units in the first four months of 1994. The overall cyclical trend to the economy and building activity would support this moderate upward growth in new residential construction.

Section II - Land Supply

The Province requires that the City address the supply of vacant land designated residential with no development approvals ("raw" land) and the supply of units in registered and draft approved plans of subdivision. It is necessary for the municipality to maintain at least a 10-year supply of designated residential land and at least a continuous 3-year supply of units in plans of subdivision.

Niagara Falls has approximately 755 hectares (1,866 acres) of residentially-designated lands vacant for new housing construction. Equating this "raw" land area to possible housing units is achieved by applying an average density for development of 17.3 units per hectare (7 units per acre) to yield a potential 13,066 units. Approximately 85% of the land for future residential development is within the Westlane and Chippawa Communities. These areas contain 332 hectares (821 acres) and 307 hectares (758 acres) of designated residential land, respectively. Servicing issues and required planning studies generally place the majority of this land into long-term supply. Utilizing the 10-year average of residential building permits (449 units/year) for a measure of consumption as previously discussed, this translates into a 29.1 year supply. This far exceeds the minimum 10-year provincial supply target.

The City's potential supply of residential units is shown in the following Table 1 for different categories by Community Planning Districts.

COMMUNITY	REGISTERED PLANS	DRAFT APPROVED PLANS	REZONED MULTIPLES	REDEVELOPMENT (PREZONED)	"RAW" RESIDENTIAL LAND	TOTAL UNITS
STAMFORD	255	37	170	359	500	1321
ELGIN	--	--	29	947	69	1045
DRUMMOND	46	--	175	1279	300	1800
QUEEN VICTORIA	--	--	--	--	113	113
NORTHWEST	874	291	208	--	580	1953
WESTLANE	18	168	284	150	5745	6365
GRASSY BROOK	--	--	--	--	452	452
CHIPPAWA	--	21	25	17	5307	5370
BEAVERDAMS	--	--	--	--	--	--
CROWLAND	--	--	--	--	--	--
WILLOUGHBY	7	13	--	--	--	20
CITY TOTAL	1200	530	891	2752	13066	18439

Unbuilt units in registered and draft approved plans of subdivision combine for a total 1,730 potential units as indicated in Table 1. The majority (67%) of this short-term supply is within the Northwest Planning Community. Applying the 10-year building permit average, this represents an estimated 3.9 year supply which exceeds the provincial 3-year requirement.

Table 1 also notes additional potential for residential units in rezoned multiple developments and on prezoned lands for redevelopment. Although these are not a component of the Provincial land supply requirement, they represent significant development potential in Niagara Falls and augment the total supply.

While the municipality currently has far in excess of the provincial requirements for vacant land (long-term) and subdivision unit (short-term) supply, continued municipal action is necessary for this supply to be maintained. Planning programs must be undertaken to ensure lands come on-stream for development. It is essential that secondary plans, neighbourhood plans and servicing plans are prepared to guide future development and open up new growth areas. This is particularly relevant for the Westlane (Garner Neighbourhood) and Chippawa Communities where studies and plan preparation are underway. Commitments to such programs and policies to enable the progression of raw land into short-term supply are contained in the City's recently approved new Official Plan.

Section III - Range of Housing

The Provincial Policy Statement requires that municipalities provide for a range of housing types at appropriate densities distributed throughout the community. The City's success at achieving this goal can be measured by examining three areas: residential construction, the mix of unbuilt residential units and residential approvals.

The following Table 2 summarizes the units in residential building permits issued during 1993 by housing type and Community Planning Districts.

TABLE 2: BUILDING PERMITS ISSUED FOR NEW RESIDENTIAL DEVELOPMENT NUMBER OF UNITS BY TYPE AND COMMUNITY - 1993					
COMMUNITY	SINGLE	SEMI-DETACHED	TOWNHOUSE	APARTMENT	TOTAL
STAMFORD	10	--	--	--	10
ELGIN	1	--	--	2	3
DRUMMOND	14	--	--	4	18
QUEEN VICTORIA	--	--	--	--	0
NORTHWEST	88	42	--	--	130
WESTLANE	19	--	--	--	19
GRASSY BROOK	--	--	--	--	0
CHIPPAWA	--	--	--	--	0
BEAVERDAMS	--	--	--	--	0
CROWLAND	2	--	--	--	2
WILLOUGHBY	2	--	--	--	2
CITY TOTAL	136	42	0	6	184

Overall, the range of housing types constructed in 1993 is somewhat uncharacteristic relative to previous years. Where the split between single and semi-detached housing compared to multiple residential (townhouse and apartment) has averaged close to a desirable 60/40 ratio over the past few years, 1993 construction was almost exclusively low density. This can be attributed to an oversupply of multiple residential developments, a lack of government-assisted housing and an uncertain economy. This construction still provides an adequate range of new housing units by way of smaller lot singles and semi-detached housing.

Reviewing the distribution of building permits among Planning Communities shows that the Northwest Community continues to account for the vast majority of new residential construction as it has for several years. The established Communities such as Stamford and Drummond are limited to infill development opportunities and construction on vacant lots in older plans of subdivision. Westlane has experienced the completion of older subdivision plans and the construction of new residences in a recent subdivision. Elgin, Chippawa, the rural communities and the tourist-oriented Queen Victoria area have limited residential development opportunities.

The mix of unbuilt unit types within registered plans and multiple residential rezonings provides information on the potential range of housing to be created. A total of 2,091 unbuilt units existed in registered plans and rezonings in Niagara Falls at the end of 1993 (see Table 1). The units in these two categories can be considered an immediately available supply. On a City-wide basis, approvals are in place for 532 single lots (25.4%), 108 semi-detached units (5.2%), 302 townhouses (14.4%) and 1,149 apartment units (55.0%). This represents approximately 30% low density and 70% higher density housing. Approved apartment units have accumulated due to an oversupply in the market.

The single-detached lot supply is comprised of small lots having lot frontages of less than 15 m (50 ft.), medium-sized lots from 15 m to less than 18 m (60 ft.), and large lots of 18 m or greater in frontage. The majority of single lots available have large frontages indicating a need for more moderate sized lots.

FIGURE 1: NUMBER AND MIX OF UNBUILT UNITS BY COMMUNITY

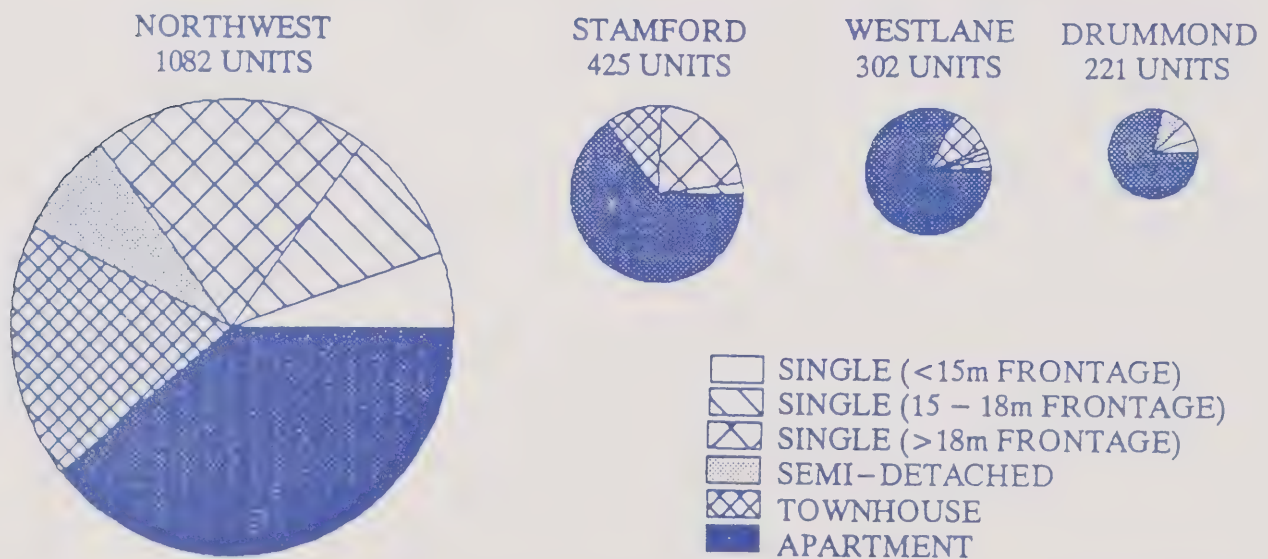


Figure 1 above highlights the mix of unbuilt units within the four Communities that represent the majority of unit supply. The size of the pie charts represent the proportion of the City's supply within each of these areas. In the Northwest, unbuilt lots and sites are available in all housing categories with a substantial supply of multiple residential units in both plans of subdivision and rezonings. It is typical for such townhouse and apartment development in subdivisions to be built after single and semi lots are substantially constructed although this process has been delayed due to limited demand and the economy. There are also a number of

large single lots available in this Community, primarily in the Mount Carmel area. The Stamford Community exhibits a large amount of available apartment development resulting from rezonings in addition to a supply of large frontage lots (including 60 unserviced lots in future phases of Calaguiro Estates). Rezoned multiple units constitute the main type of residential sites in both Westlane and Drummond due to the immediate infill and redevelopment potential in these Communities as opposed to the development of new subdivisions on raw land.

Development approvals represent the final area within the range of housing criteria to be addressed. These are an important element when considering the range of housing types and sizes available and the accumulative nature of the unit supply process. Identified shortfalls or areas of over supply can be balanced through the type of residential development that will come on-stream in the near future. In this regard, several plans of subdivision at the draft approval stage contain smaller lot singles and semi-detached housing that will help adjust the City's range of units to an even more desirable level.

From an overall perspective, Niagara Falls is providing a suitable range of housing types at appropriate densities throughout the municipality. Council's actions in the review and approval of proposed development can assist in maintaining an appropriate mix of single lot sizes and housing types. The City has advocated such objectives in the new Official Plan. These policies will be implemented through the application review process and through secondary planning in the Chippawa and Westlane Communities.

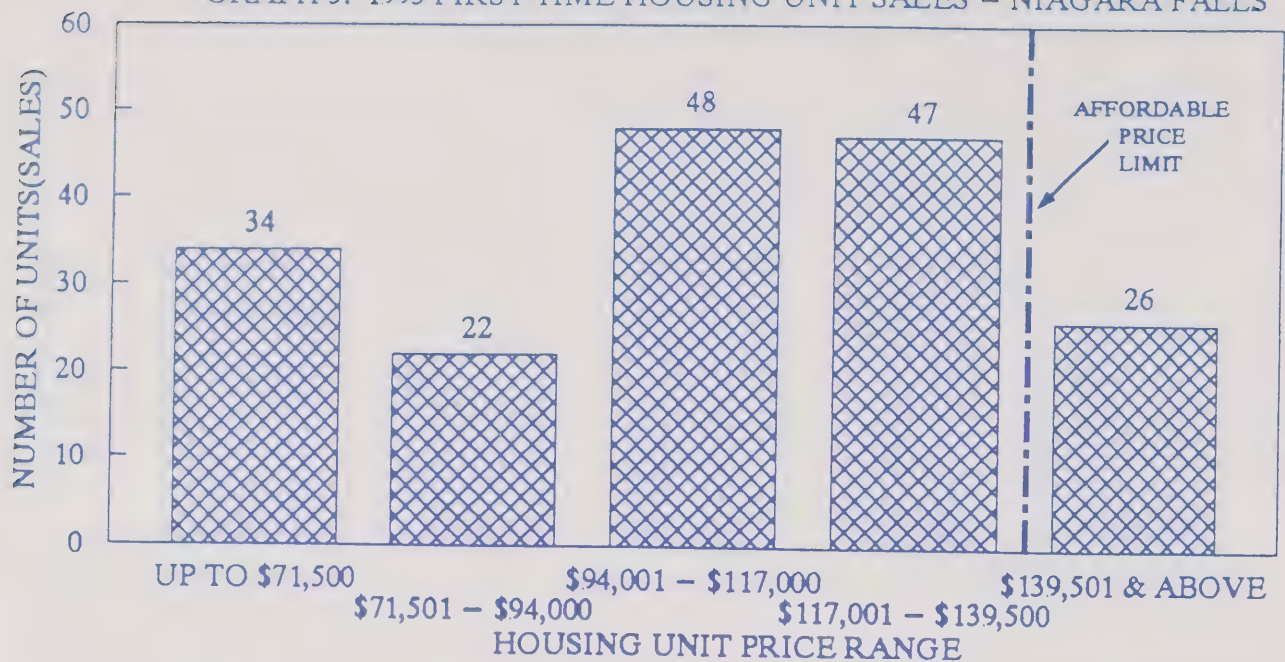
Section IV - Affordability

The City is required by the Province to review new house prices for each form of housing relative to income distribution. First time sales of new residential units are monitored to determine if an affordable target is being achieved in the private housing market. The Province requires that a minimum of 25% of new housing produced be affordable.

The Province establishes affordability levels for a range of household income groups in various geographic areas. The last figures produced by the Province are for 1992 and assume a 25% down payment and a mortgage rate of 11.5% for calculations. This information is provided by "percentile" groups. The 60th percentile is the maximum for affordability and is the household income level at which 60% of households are below. Based on these guidelines, the upper limit for an affordable home in Niagara Falls is \$139,500 corresponding to a household income of \$48,700.

The following Graph 3 illustrates the first time sales of housing units in Niagara Falls during 1993. The graph indicates the number of units sold categorized by the percentile groups of house costs specified by the Province.

GRAPH 3: 1993 FIRST TIME HOUSING UNIT SALES – NIAGARA FALLS



Over 85% of new homes sold this past year (151 of 177) were affordable on a City-wide basis, far surpassing the 25% minimum requirement of the Province. The prices of these affordable dwelling units were well distributed providing housing options for the full-range of income groups. Most sales occurred in the Northwest Community where approximately 80% of the units (75 of 94) were sold as affordable. Approximately 90% of the new homes sold in both Westlane (38 of 42) and Stamford (24 of 27) were affordable, while all first time sales in Elgin (4) and Drummond (10) were below the affordability cutoff.

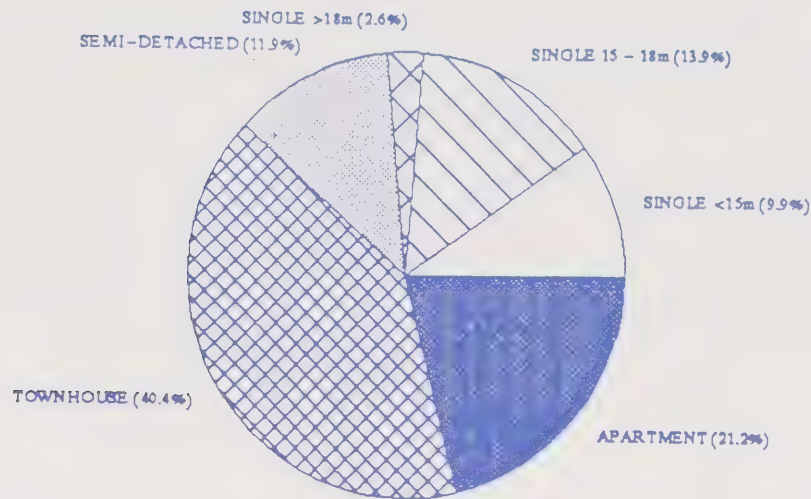
Considering that a 25% down payment may not be possible for first time home buyers, the Province has generated figures assuming a 5% down payment. This lower down payment reduces the affordability "ceiling" as a larger mortgage is being carried. At 5% down, a sale price of \$113,500 is the maximum for affordability in the municipality. Based on first time sales of new residential units during 1993, Niagara Falls still fairs very well with a total of 54.2% of the units sold as affordable.

The dramatic increases in affordability in recent years can be explained by a number of factors. The relatively low prices of homes, low mortgage rates and various government incentive programs have combined to make it more appealing and achievable to enter the home ownership market. The government has extended initiatives enabling R.R.S.P. funds to be withdrawn for a home purchase as well as the First Home Loan Insurance program which allows a minimum 5% down payment.

The range of housing options, in terms of type and size, is another important consideration in meeting the needs of households within the community. The number and type of residential units that were sold as affordable housing in 1993 is illustrated by the following Figure 2. The information indicates that a good mix of single and semi-detached homes, townhouses and apartments was provided of the total 151 affordable sales. Especially apparent are the townhouse and apartment condominium units representing 61.6% (93 units) of all affordable dwelling sales in 1993. These were primarily located in the Northwest and Westlane

Communities. Single detached homes on small and medium-sized lots, as well as semi-detached housing, provided significant affordable units as well.

FIGURE 2: 1993 AFFORDABLE SALES BY HOUSING TYPE/LOT SIZE



The Province also prepares guidelines on rental housing which identifies the upper limit for affordability as \$720 per month in rent (corresponding to a household income of \$28,500). Percentile groupings for income and rent below this maximum are determined and rental housing should be available to this range of households with various income levels. Data on rents in Niagara Falls is presently available from a CMHC survey, most recently conducted in October 1993. This survey includes a sampling of new and older rental units in the City. Although the Provincial requirement would strictly be interpreted to apply for only new rental accommodation, there is no readily available information source.

The following Table 3 provides an overview of all surveyed units from CMHC for private apartments and rowhouse (townhouse) units, classified by unit size. These figures indicate that Niagara Falls is providing rental market housing at a wide range of rents below the affordability maximum.

TABLE 3: AVERAGE RENT FOR PRIVATELY-INITIATED UNITS NIAGARA FALLS - CMHC SURVEY OCTOBER 1993		
# BEDROOMS	APARTMENTS	ROW/TOWN
BACHELOR	\$ 342	--
ONE	\$ 467	\$ 503
TWO	\$ 566	\$ 595
THREE	\$ 598	\$ 640

In addition to private rental buildings, government-assisted housing (cooperative, non-profit) as well as the practise of investment owners renting condominium units increase the rental supply at affordable levels to most income groups. Although there were no assisted development projects started in 1993, over 400 units have been constructed since 1990 in Niagara Falls. These developments provide a mix of market rent and subsidized housing units within each project.

In summary, the information presented clearly shows that Niagara Falls continues to provide significant amounts of affordable housing to a wide range of households at different incomes. The City satisfies Provincial requirements in this regard. Opportunities can be maintained to enable the housing market to build and sell affordable residential dwellings by the municipality continuing to approve a mix of housing types and sizes in all Community Planning Districts.

* * *

CONCLUSION

This report has examined many aspects relating to housing in Niagara Falls and specifically addresses a Provincial requirement for monitoring (i) land and lot supply ii) range of housing iii) affordability and iv) processing applications. Analysis of the information indicates that the City is doing very well in satisfying the housing criteria and measures set out by the Province. The municipality must undertake various planning and servicing studies for the development of new land areas, continue to approve a range and mix of housing and further streamline the development review process where possible to provide suitable opportunities for affordable housing to be constructed to meet the needs of all households.

This continuous monitoring of housing-related information for the public's information and to assist in setting policies for development represents a substantial workload. The establishment of a computerized system to maintain, update and analyze the data in the most efficient manner is proceeding. In doing so, staff will be better able to respond to inquiries from developers, businesses and the public and report to Council.

Appendix

Housing Policy Priority: Using Government Land for Housing



Housing Priority Policy

— Using Government Land for Housing

One of the Ontario Government's top priorities is ensuring that people have safe, affordable accommodation. The Government has substantial land holdings in and around Ontario communities. The Housing Priority Policy is intended to increase the amount of government land available for housing development. It replaces the Housing First Policy announced in 1987.

The Housing Priority Policy, which is jointly administered by the Ministry of Housing and the Ministry of Government Services, applies to all municipalities defined as Priority Areas under the Land Use Planning for Housing Policy Statement and other municipalities having a population greater than 25,000.

Over the next five years, it is expected that approximately 15,000 housing units will be created on government lands.

What Does the Housing Priority Policy Do?

The Policy creates a clear housing priority in the allocation of surplus government sites. Sites suitable for housing are to be held for residential development unless the Government decides that there is a more compelling provincial use for the land. It also:

- Includes an annual inventory of under-utilized sites, requiring provincial ministries and agencies to identify potential urban sites that are suitable for housing.
- Applies to all provincial Crown agencies (other than those solely engaged in the administration of pension funds).
- Permits the sale of high-value government sites, with the proceeds used to purchase other land where significantly more affordable housing could be produced than would have been the case on the high-value site. (Sites will only be sold on a case-by-case basis where approved by the provincial Cabinet.)
- Ensures active planning approval support by the Government for affordable housing development on government land.
- Demonstrates environmental leadership in the development of housing on government land. This includes assessing a site's environmental characteristics as soon as possible in order to avoid unnecessary delays in its use for housing.

- Reserves government lands for not-for-profit housing (unless there is no demonstrated need) where no group is immediately available, up to a maximum of five years or until it is decided that the land should be used for affordable market housing, whichever comes first.
- Uses co-operative methods to encourage municipalities, school boards and transfer payment agencies to make their surplus properties available for housing on a voluntary basis.

Housing Mix Targets

The Policy establishes new affordable housing mix targets for government land such that:

- Smaller sites, those that can accommodate only one project, should be used for not-for-profit housing.
- Larger sites should have no less than 70 percent Affordable Housing, with at least half of this (35 percent overall) being for not-for-profit housing, and the other half being affordable, private housing (ownership or rental). The remaining 30 percent of the units overall will be unspecified market housing. Significant variations from the 35/35/30 objective will only occur where justified by community need or physical site constraints.
- In the case of extremely large government sites, the overall objective will be to provide a full range of housing types, with the precise mix determined as part of the planning process.

These housing mix targets are government policy and should be taken into account by planning authorities when making land use planning decisions.

For further information, contact:

Ministry of Housing
Manager, Land Development Group
777 Bay St., 12th Fl., Toronto M5G 2E5
(416) 585-6217 FAX (416) 585-7455



MUNICIPALITIES COVERED BY THE HOUSING PRIORITY POLICY

Durham Region

- Oshawa
- Ajax
- Newcastle
- Pickering
- Whitby
- Brock
- Scugog
- Uxbridge

Halton Region

- Burlington
- Halton Hills
- Milton
- Oakville

Hamilton-Wentworth Region

- Hamilton
- Stoney Creek
- Ancaster
- Dundas
- Flamborough
- Glanbrook

Metro Toronto

- Etobicoke
- North York
- Scarborough
- Toronto
- York
- East York

Niagara Region

- Niagara Falls
- Port Colborne
- St. Catharines
- Thorold
- Welland
- Fort Erie
- Grimsby
- Lincoln
- Niagara-on-the-Lake
- Pelham
- Wainfleet
- West Lincoln

Ottawa-Carleton Region

- Gloucester
- Kanata
- Nepean
- Ottawa
- Vanier
- Rockcliffe Park
- Cumberland
- Goulbourn
- Osgoode
- Rideau
- West Carleton

Peel Region

- Brampton
- Mississauga
- Caledon

Waterloo Region

- Cambridge
- Kitchener
- Waterloo
- North Dumfries
- Wellesley
- Wilmot
- Woolwich

York Region

- Aurora
- East Gwillimbury
- Georgina
- Markham
- Newmarket
- Richmond Hill
- Vaughan
- Whitchurch-Stouffville
- King

Toronto CMA (Additional)

- Orangeville
- Bradford West
- Gwillimbury
- New Tecumseth

London CMA

- Belmont
- Delaware
- Lobo
- London City
- London Township
- North Dorchester
- Port Stanley
- Southwold
- St. Thomas
- West Nissouri
- Westminster
- Yarmouth

Windsor CMA

- Anderdon
- Belle River
- Colchester North
- Essex
- Maidstone
- Rochester
- Sandwich South
- Sandwich West
- St. Clair Beach
- Tecumseh
- Windsor

Others

- Barrie
- Belleville
- Brantford
- Chatham
- Cornwall
- Guelph
- Kingston
- Kingston Township
- North Bay
- Orillia
- Peterborough
- Sarnia-Clearwater
- Sault Ste. Marie
- Stratford
- Sudbury
- Thunder Bay
- Timmins
- Woodstock

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Background.....</i>	<i>1</i>
1.2	<i>Rationale</i>	<i>1</i>
1.3	<i>Application of Policy</i>	<i>2</i>
1.4	<i>Goal</i>	<i>3</i>
2	Policy Explanation and Implementation	3
Policy D 1	<i>Prime Agricultural Areas.....</i>	<i>5</i>
	<i>Identification of Prime Agricultural Areas</i>	<i>6</i>
	<i>Permitted Uses in a Prime Agricultural Area</i>	<i>8</i>
	<i>Settlement Area Expansions</i>	<i>9</i>
Policy D 2	<i>Non-Agricultural Uses</i>	<i>10</i>
Policy D 3	<i>Lot Creation</i>	<i>11</i>
	<i>Lot Creation</i>	<i>12</i>
Policy D 4	<i>Mineral Aggregate Extraction.....</i>	<i>17</i>
	<i>Agriculture and Aggregate Extraction.....</i>	<i>18</i>
	<i>Agricultural Rehabilitation for Lands Above the Water Table</i>	<i>18</i>
	<i>Extraction Below the Water Table</i>	<i>19</i>
Policy D 5	<i>Minimum Distance Separation</i>	<i>21</i>
Appendix		
A	<i>The Canada Land Inventory Soil Capability Classification System for Agriculture</i>	<i>22</i>
B	<i>Alternative Land Evaluation System (not included in this Edition).....</i>	<i>27</i>
C	<i>Minimum Distance Separation Formulae</i>	<i>28</i>

AGRICULTURAL LAND POLICIES

Agricultural Land Policies

Implementation Guideline for Policies D1 to D5

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guidelines are advisory only, and are not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines

are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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1

INTRODUCTION

1.1

Background

In 1978 the Province released, as government policy, the *Food Land Guidelines* to assist municipalities in planning for agriculture in Ontario. As the Guidelines predate the *Planning Act*, 1983, they were dealt with as an expression of provincial interest as outlined in section 2 of the Act. The Guidelines were designed to assist all levels of government in dealing with agriculture in planning. They outlined a methodology for accommodating agricultural land needs in the planning process and a means of ensuring an adequate land base for agricultural land needs of the future.

The government has released a new set of provincial land use policies, the Comprehensive Set of Policy Statements. Goal D, on Agricultural Land Policies, provides new policies dealing with the agricultural land resource. These policies are based on the extensive consultation of the Commission on Planning and Development Reform and a separate consultation by the Ministry of Agriculture, Food and Rural Affairs that was carried out in 1992. The Ministry's consultation was based on the discussion paper entitled *An Agricultural Land Protection Program for Ontario*.

When the Comprehensive Set of Provincial Policy Statements comes into effect, it will replace the *Food Land Guidelines*.

1.2

Rationale

The Agricultural Land Policies are based on the government's goal to retain options for meeting present and future needs for foodlands and food. Less than nine percent of the province is suitable for agricultural production. Most of these lands are near the highest concentrations of people. There is therefore great pressure to develop or fragment prime agricultural areas for non-agricultural uses, whether this be through urban sprawl, through severances or through other non-agricultural forms of development or uses.

In addition the agriculture and food industry plays a very significant role in the province's economy. More than one in ten people in Ontario work in the agri-food sector, with agri-food being the second largest manufacturing activity.

The loss of the best agricultural lands, the creation of incompatible uses in agricultural areas and the fragmentation of the agricultural land base all have serious negative consequences for meeting present and future needs for foodlands and food. Almost all types of agricultural operations require a suitable land base. Removal of the best agricultural lands reduces the options and/or necessitates the growing of crops on less productive lands. Non-farm uses in agricultural areas have led to complaints about the noise, odour, and dust from farm operations. In addition, the influx of non-farm residents has led to a demand for urban type services, inflated farm land values, and resulted in damage to crops, fences and harassment of livestock. The fragmentation of the agricultural land base into increasingly smaller parcels through severances has resulted in parcel sizes that are not useful or available for agriculture. Once fragmented, reconsolidation of the parcels is not practical.

Protection of prime agricultural areas from competing and incompatible uses will maintain options for meeting present and future needs for foods, allow those engaged in agricultural operations to carry on their operations with a minimum of disruption, as well as create opportunities for efficiencies of production that are needed in today's economic climate.

1.3

Application of Policy

Goal D is intended to ensure the province's prime agricultural areas are protected for long-term agricultural use and from competing and incompatible land uses. Such areas are to be identified in official plans. The corresponding official plan policies and all planning decisions under the *Planning Act* are to reinforce this principle by being consistent with goal D and other appropriate provisions of the Comprehensive Set of Policy Statements.

Municipalities, if they so desire, may also identify agricultural areas of regional or local significance over and above those areas identified as being of provincial significance. Moreover, policies under goal D are intended to be minimum policies and municipalities may incorporate more restrictive policies in their planning documents.

1.4

Goal

Goal D, Agricultural Land Policies, is:

"To protect *prime agricultural areas* for long-term *agricultural use*."

2

POLICY

Explanation and Implementation

Definitions

The Comprehensive Set of Policy Statements provides the following definitions:

Prime agricultural area:

"means an area where *prime agricultural land* predominates. *Prime agricultural areas* may also be identified through an alternative land-evaluation system approved by the Ministry of Agriculture and Food."

Appendix B to this Guideline provides details on the alternative land-evaluation system.

Prime agricultural land:

"means land that includes *specialty crop lands* and/or Canada Land Inventory Classes 1, 2 and 3 agricultural soils."

Appendix A to this guideline provides details on the Canada Land Inventory Soil Capability Classification System for Agriculture.

Specialty crop land:

"means lands where specialty crops such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally

developed organic soil lands are predominantly grown, usually resulting from:

- soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both; and/or
- a combination of farmers skilled in the production of specialty crops, and of capital investment in related facilities and services to produce, store, or process specialty crops."

2.1

Policy D 1 Prime Agricultural Areas

Policy D1 states that:

"Prime agricultural areas will be protected for agricultural use, being:

- prime agricultural uses: the growing of crops or raising of livestock and other animals for food or fur, including poultry and fish;
- secondary agricultural uses: uses secondary to the farm operation, such as home occupations, home industries, and uses that produce value-added agricultural products from the farm operation.
- agriculture-related uses: those farm-related commercial and farm-related industrial uses that are directly related to the farm operation and are required in close proximity to farm operations.

Extensions of settlement areas affecting prime agricultural areas will be permitted only if the policies of goal B are met."

This policy has three components:

- (1) **identification of prime agricultural areas,**
- (2) **permitted uses in a prime agricultural area, and**
- (3) **settlement area expansions.**

Identification of Prime Agricultural Areas

The official plan must identify on its land use schedule the prime agricultural areas and the specialty crop areas. These prime agricultural areas are to be available for agricultural use on a long-term basis, meaning at a minimum the term of the plan, and the policies of the designation should clearly state that this is a major objective of the designation. Staff of the Ministry of Agriculture, Food and Rural Affairs should be consulted when identifying the prime agricultural areas. The following steps should be taken in identifying the prime agricultural areas:

Step 1

The appropriate background information should be collected, including the Canada Land Inventory Capability Classification for Agriculture maps. Such maps provide a soil class rating of 1-7 for common field crops. If specialty crop suitability ratings are available, they should also be obtained.

Assessment maps or other maps showing land parcel sizes and configurations, official plan and zoning schedules, and any other maps showing existing uses and approved developments are to be collected and prepared. Any maps showing existing agricultural information, such as cropping patterns or livestock operations are also useful. It is important that the maps showing parcels and uses are current.

Step 2

This step involves identifying the preliminary prime agricultural areas. As the definition indicates, this means areas where prime agricultural land predominates. It is very likely that there will be pockets of Class 4 to 7 lands located in areas where Class 1 to 3 lands predominate. These pockets are not to be excluded from the agricultural designation. The intent is to identify the large contiguous areas for agriculture. Even if the poor pockets are not suitable for crop production, non-agricultural uses on these lands can create potential conflicts for agricultural activities. Moreover, open fields or woodlots on these pockets are often essential components of farm operations as they may provide pasture windbreaks, opportunities for maple syrup or firewood production, or help reduce soil erosion.

As a general rule, prime agricultural areas should be 250 hectares or larger. Conversely pockets of poor lands should be 250 hectares or larger to be in a separate non-agricultural designation. There will be parts of the province where these prime agricultural areas will be smaller or larger. Such a determination should be based on the type of agricultural activities in the area, soil capability, surrounding land uses, and so on. One example may be specialty crop areas. Also, regionally and locally significant areas may be smaller.

In determining agricultural areas, it should be noted that such areas may cross municipal boundaries. Areas that are part of a larger agricultural area should be

identified.

It should also be noted that in identifying prime agricultural areas, the intent is to identify lands with potential for agriculture, not just those already in production. Many areas which are lying idle, in rough pasture or scrub bush, have a food producing capability which is not being used.

Specialty crop areas are to be specifically identified on the land use schedule, separate from the traditional prime agricultural area designation. It is important that such areas be identified, because without exception they are to be avoided for settlement area expansions. It is not the intent to identify individual parcels or small pockets of specialty crop areas, but areas where soils, climate, skilled farmers and investment have resulted in the creation of specialty crop areas.

Some areas of the province where such specialty crop areas are located, but are not limited to, are the Niagara tender fruit and grape lands, the Harrow-Leamington-Wheatley-Blenheim area, the Meaford-Thornbury area, the Holland Marsh, Thedford Marsh, etc.

Step 3

Once preliminary prime agricultural areas and specialty crop areas have been identified, a review should be undertaken to identify circumstances that may impact where the prime agricultural area boundaries are drawn. Some prime agricultural areas may have substantial non-farm uses already present or be fragmented to such a degree that they are no longer useful for agriculture. A caution needs to be added. A strip of houses or a small grouping of other non-agricultural uses or several small lots are not sufficient grounds for deletion of the strip. The built up areas or fragmentation must be substantial to warrant designation to another use.

It is recommended that a field tour of the municipality be conducted, preferably with Ministry staff and local farm groups, to ensure the accuracy of the information collected and to verify the proposed designations.

All of the land outside the settlement areas would not necessarily be prime agricultural areas. Those lands that clearly do not fit into this category may be placed in other rural designations. Such areas would be where Class 4 to 7 lands predominate. There may be small pockets of Class 1 to 3 lands within this area, but such pockets would not be large enough to warrant inclusion in the prime agricultural area designation. These lands will be subject to the other policies in the Comprehensive Set of Policy Statements. It should be noted that the minimum distance separations must be adhered to, even in such rural designations. Existing farm operations in these areas should be protected from encroaching non-farm uses.

Any amendments to the official plan should use as comprehensive a methodology as that outlined above. In other words, any amendments should be evaluated as to their relation to the

entire municipality and the criteria and methodology for determining the prime agricultural designation for that municipality.

Another methodology for identifying prime agricultural areas is the land evaluation system, as outlined in Appendix B. This system is intended to provide a framework, or general guide. Other systems may be used provided the identified prime agricultural areas are consistent with the provisions of goal D. Again, Ministry of Agriculture, Food and Rural Affairs staff should be consulted on their development and proposed use by a municipality.

Any such system requires approval by the Ministry of Agriculture, Food and Rural Affairs.

Permitted Uses in a Prime Agricultural Area

Once the prime agricultural area is identified, the permitted uses for this designation, except as identified in policies D2 to D4 are as follows:

1. **primary agricultural uses** - these are intended to include the land, buildings and structures for the purpose of growing or raising of field crops, market gardening crops, aquaculture, orchards, vineyards, livestock, poultry, nurseries, greenhouses, apiaries, mushrooms, horticulture, agro-forestry or other farming uses. Included in this are farm buildings and structures such as barns, silos and manure storage tanks, as well as structures and buildings for the packing, storage, processing and treating of products grown or raised on the farm. Such uses also include one farm house, and additional houses for full time farm help and seasonal farm help, provided they are needed on the farm and such houses are not severed.
2. **secondary agricultural uses** - these uses are secondary and incidental to the farm operation, meaning the principal use is and will continue to be the farm. Such uses are small in scale, but provide additional sources of income to the farm operation. The official plan and/or zoning by-law should prescribe the uses and scale and establish standards such as size, number of employees, parking spaces, signage and so on, to ensure they are small scale and remain secondary to the principal agricultural use.

Some examples of secondary agricultural uses are:

home occupations	such uses are contained within the residential dwelling. Some examples are bed and breakfast facilities, day care, hairdresser, professional services, etc.
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home industries

such uses are located in an out-building on the property. Although these uses are generally in an existing out-building, a new building may be permitted provided it is small scale and located within the existing farm cluster. All of such uses must not alter the principal use of the property for agriculture. Some examples include minor equipment repair, woodworking, crafts, welding, etc.

value-added agricultural products from farm operation

some examples may include farm vacations, cottage wineries, value-added processing, packing operations, seasonal roadside produce stands, seed cleaning, pick-your-own operations, etc.

3. **agriculture-related uses** - those uses that are directly related to agriculture, support agriculture, need to be near the farm operation, and provide direct service to agricultural operations as an exclusive or primary activity. Some examples are livestock assembly yards, grain drying, cold storage facilities, custom spraying and animal husbandry services.

In addition to the above there may be non-related compatible uses that could be permitted in prime agricultural areas. Such uses leave the land in large parcels suitable for commercial farming, do not require buildings or other construction on the lands, and do not alter the soil or topography adversely. These include such activities as forestry, environmental areas, passive recreation, open space and conservation areas, but do not include such uses as golf courses, other sports facilities, driving ranges, agrominiums, and tent and trailer parks.

Settlement Area Expansions

It is acknowledged in the policies that settlement area expansions may occur into prime agricultural areas, although not on specialty crop lands. Such expansions will only occur if the requirements of policies B8 and B9 dealing with settlement area expansions can be met. See the implementation guidelines for these policies, including the *Projection Methodology Guideline*. Staff of the Ministry of Agriculture, Food and Rural Affairs should be consulted prior to considering any such settlement area expansions into prime agricultural areas.

2.2

Policy D 2 Non-Agricultural Uses

Policy D2 states that:

"Non-agricultural uses, including *public service facilities*, are not permitted within *prime agricultural areas* and are encouraged to locate in existing communities to support, where possible, community economic development.

New *infrastructure* may be permitted within the *prime agricultural areas* only if it has been approved through an *environmental assessment process*."

Because of the narrowing of provincial interest onto only classes 1, 2 and 3 soils and specialty crop lands, the comprehensive set of provincial policies does not permit new uses that are not specifically provided for in policy D1. The previous government policy for agriculture, the *Food Land Guidelines*, did allow for non-agricultural uses to be considered if one could demonstrate the need for the proposed use, the rationale for the site chosen and the demonstration that no sites on lower capability soils were available for the use. Over time golf courses, retail stores, churches, industrial plants, residential subdivisions and other such uses occurred that did not contribute to the support of the agricultural industry. Conversion of prime agricultural areas for these uses is no longer permitted. Such uses are more appropriately directed and specifically encouraged to settlement areas and other rural non-agricultural areas.

The one exception to the above is infrastructure uses that are approved through an environmental assessment process, such as those under the *Environmental Assessment Act*. Examples would include landfills, roads, transmission lines, water and sewer facilities. Reasonable alternatives for avoiding all prime agricultural areas are not always possible for such uses. Given such uses are subject to an extensive review process under other legislation, it is felt an additional review under the *Planning Act* would be duplication if appropriate consideration to agriculture was considered under the other process. Such consideration would be to avoid prime agricultural areas wherever possible and where not possible, to mitigate impacts to agricultural lands and operations. The above-noted exemption would not apply to those undertakings which are exempt from a full environmental assessment review, such as those for Class Environmental Assessments. Where guidance is sought on agricultural policies, the provisions of policies D, B8 and B9 should be used.

2.3

Policy D 3 Lot Creation

Policy D3 states that:

"Lot creation in *prime agricultural areas* is generally discouraged, and will be permitted only for:

- primary agricultural uses where the severed and retained lots are intended for primary agricultural uses and are of a size appropriate for the type of agricultural use(s) common in the area, and are sufficiently large to maintain flexibility for future changes in type or size of agricultural operation;
- existing agriculture-related uses;
- *residences surplus to farming operations*;
- *residential infilling*;
- one lot for a farm operation for a full time farmer of retirement age who is retiring from active working life, was farming on January 1, 1994 or an earlier date set in an existing official plan, and has owned and operated the farm operation for a substantial number of years;
- *infrastructure* where the facility cannot be accommodated through the use of easements or rights-of-way, and
- *legal or technical reasons*.

Lots for any of the residential uses listed above will be kept to the minimum size needed to accommodate the residence plus *individual on-site systems* and should be located in such a way as to avoid the most productive portion of the farm."

Lot Creation

The policy states that severances in prime agricultural areas are generally discouraged. The policies do permit, however, municipalities to consider permitting some severances under specific conditions. These policies are intended to ensure that the province's prime agricultural areas are protected from incompatible uses and are not fragmented to the detriment of present and future agricultural operations. In this way, farmers will be provided with some security that they will have a suitable land base and can continue to operate without the complaints of non-farm users who may be unfamiliar with farm practices. The policy limits the types of residential lots that can occur and directs such uses to the least productive portion of the farm. In addition, lot sizes are to be limited so as to minimize the loss of productive agricultural land.

A municipality is not required to permit any of the types of severances indicated in policy D3 (i.e., they may permit no, some or all types). However, for any types of severances indicated in D3 that the municipality permits, the criteria identified in D3 must be incorporated as minimum provisions. Municipalities may provide for more restrictive provisions than those identified in D3.

The first part of policy D3 is intended to outline what should be evaluated by the decision-maker for specific applications:

- "• primary agricultural uses where the severed and retained lots are intended for primary agricultural uses and are of a size appropriate for the type of agricultural use(s) common in the area, and are sufficiently large to maintain flexibility for future changes in type or size of agricultural operation;"

This type of severance deals with dividing an existing farm into two new independent farms and is generally referred to as creating new farm parcels.

Differing types of farm operations require different parcel sizes. For example, horticultural operations in the Holland Marsh may require different lot sizes than cash crop operations in the southwest.

Information sources such as Census Canada can provide information on local trends in farm sizes and types. If the proposed new farm parcel is for a type of operation that is not common to the area, advice can be obtained through the local office of the Ministry of Agriculture, Food and Rural Affairs as to what types of farms are able to function in the area based on soil type, climate, local market conditions, service support requirements and the appropriate farm sizes. Care should be taken to ensure the proposed use on the new farm parcel is indeed carried out. Some municipalities have required the two new farms to be in operation before a severance is granted, such as a greenhouse to be constructed before the severance is finalized.

It should also be noted that many farm operations are not based on one parcel alone, but a number of parcels, whether owned or rented. Severances should not be granted on the grounds that the existing parcel is not large enough to support an agricultural operation. These parcels

may be rented to neighbouring farmers, or sold to adjacent or nearby farmers, thus maintaining the available land base in the area.

It is appropriate to permit lot additions, whereby a parcel is severed and added to an abutting parcel, provided both farm parcels are an appropriate size. The parcel being added should also be merged on title so no additional new lot is being created.

The newly created farm, and the remnant farm, should each be of a size that allows for flexibility to change to an alternative type of agricultural operation, or to be able to expand or diversify the operation. Farm operations are not static and need to be able to change over time to meet changing market demands and economic conditions. Creating a farm parcel size too small may negate future opportunities. Environmental considerations should also be taken into account, such as an appropriate land base to dispose of manure.

Under the second part of D3, lot creation may be possible for:

- "• existing agriculture-related uses;"

A severance may be permitted for agriculture-related uses as defined in policy D1, provided the use is currently in existence and the proposal is for the continuance of this use. A severance would not be permitted for a proposed use, as experience has shown that many of the intended uses do not proceed. The size of the lot should be kept to a minimum.

Lot creation may also occur for:

- "• *residences surplus to farming operations*;"

In the Comprehensive Set of Policy Statements, a residence surplus to farming operation:

"means an existing second farm residence built prior to 1978 and surplus to the farm, or an existing farm residence that is rendered surplus as a result of farm consolidation."

Farm consolidation:

"means acquisition of additional farm parcels to be operated as one farm operation."

Where there were two or more residences built prior to 1978, and where one is surplus to the farm operation, it may be severed. This policy is not intended to allow construction of new residences and the subsequent severance of older houses.

For the second part of the definition, a farm operator must purchase or otherwise acquire a second farm. If the existing farm has a farm residence, and the purchased farm has a farm residence, then one of the farm residences may be severed if it is surplus to the farmer's needs. Some municipalities have in the past added a condition that the purchased farm must be abutting to the existing farm, and in some cases have further required the two farms to be merged on title. This is to prevent the farmer from building a new house on the lot from which the surplus house

was severed. Other municipalities have required, as a condition of approval, that the lot from which the surplus house was severed be rezoned to prevent a new house being constructed. Municipalities may also not wish to permit the severance of surplus farm houses, and encourage the farmer to rent the house rather than create a potential future land use conflict.

The fourth part of policy D3 indicates that lot creation may be allowed for:

"• *residential infilling*,"

Also in the Comprehensive Set of Policy Statements, residential infilling:

"means the creating of a residential lot between two existing non-farm residences on separated lots, which residences are situated on the same side of a road and not more than 100 metres apart."

In many cases, the addition of another residence between existing non-farm residences will have a minimal impact on agricultural operations in many parts of the province, and as such, residential infilling as defined may be permitted. It is important to emphasize that the distances are from the residences and not the lots. It is suggested measurements should be made perpendicular from the road to the house and then measured along the road frontage.

In some specialty crop and intensive farming areas, infilling lots may not be desirable because of the value of the agricultural resource, the ability to successfully farm these small lots and/or the potential impacts on neighbouring agricultural operations.

Under the fifth point of policy D3, lots may be created as follows:

"• one lot for a farm operation for a full time farmer of retirement age who is retiring from active working life, was farming on January 1, 1994 or an earlier date set in an existing official plan, and has owned and operated the farm operation for a substantial number of years;"

The *Food Land Guidelines* permitted retirement lots for full time farmers who wished to live on the farm after retirement. Experience has shown that many of the lots were soon sold after being granted and became non-farm lots. However, many farmers were counting on retirement lots for retirement purposes. It was felt that they should be phased out over time rather than completely eliminate them at this time. For those starting full time farming after January 1, 1994 they will be aware they will not be entitled to retirement lots when they retire, while farmers who commenced farming prior to that date can obtain such lots providing they meet all of the conditions in D3 and any local requirements.

Some municipalities have already established dates in their plans for retirement lots. In these instances farmers are aware such types of lots will be phased out over time, and as such the dates are not to be changed.

As a guide, municipalities generally require full time to mean the majority of the farmer's income is obtained from farming operations and/or the majority of their work time is devoted to farming. It is recognized that many farmers have off-farm income. These provisions prevent people who own farms, but do not actually farm, from obtaining retirement lots. As for "retirement age", a number of municipalities require applicants to be a minimum age.

"Retirement from active working life" is intended to mean that the individual is retiring and is selling the farm in the near future. This does not mean that someone is merely changing occupations (i.e., changing from farming to a non-agricultural occupation) but is actually retiring from farming.

As for the provision "a substantial number of years", some municipalities specify the number of years, such as a minimum of 20 to 25 years. This is to prevent individuals from purchasing farms and then obtaining a retirement lot, as the provision is intended to only apply to bona fide retiring farmers.

Municipalities should also consider providing a provision that does not allow an applicant to receive a severance for retirement purposes when the applicant has previously received a lot.

The sixth point of policy D3 addresses lot creation for infrastructure. It may be permitted for:

- "• *infrastructure* where the facility cannot be accommodated through the use of easements or rights-of-way;"

Infrastructure, as defined in the Comprehensive Set of Policy Statements:

"means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridor and facilities, and oil and gas pipelines and associated facilities."

Where infrastructure is permitted, the preferred choice would be that the ownership of the land remain with the farm operator for uses such as hydro corridors, pipelines, etc. However, this policy allows for a severance if that is not possible.

The final circumstance where lot creation in prime agricultural areas may occur is for:

- "• *Legal or technical reasons.*"

The Comprehensive Set of Policy Statements defines legal and technical reasons as:

"... severances for purposes, such as easements, corrections of deeds, quit claims, and minor boundary adjustments, which do not result in the creation of a new lot."

Previous changes to the *Planning Act* and practices such as "checkerboarding" have resulted in

abutting lots being merged on title.

This definition specifically does not mean those applications seeking to split properties which have merged on title.

Policy D3 concludes by stating that:

- "• lots for any of the residential uses listed above will be kept to the minimum size needed to accommodate the residence plus *individual on-site systems* and should be located in such a way as to avoid the most productive portion of the farm."

In all cases, lot sizes for residential uses should be no larger than necessary to accommodate the buildings and sewage disposal systems. Lots for new residences should be located on the poorer quality agricultural soils, away from the barns and manure storage facilities and otherwise located to have the least impact on farm operations.

2.4

Policy D 4 Mineral Aggregate Extraction

Policy D4 states that:

"In *prime agricultural areas*, extraction of *mineral aggregates* on *prime agricultural lands* may be permitted as an interim use provided that agricultural rehabilitation of the site will be carried out whereby substantially the same areas and same average soil quality for agriculture are restored.

On *prime agricultural lands*, extraction may occur below the water table and complete agricultural rehabilitation is not required only if it is demonstrated that:

- a) there is a substantial quantity of *mineral aggregate* below the water table warranting extraction below the water table;
- b) other alternatives have been considered by the applicant and found unsuitable. Other alternatives include resources in areas of classes 4 to 7 agricultural lands, resources on lands committed to future urban uses, and resources on *prime agricultural lands* where rehabilitation to agriculture is possible; and
- c) in those areas remaining above the water table following extraction, agricultural rehabilitation will be maximized."

Agriculture and Aggregate Extraction

Agricultural lands and mineral aggregates are both important resources that need to be protected. Some mineral aggregate deposits may be located below prime agricultural lands. In most cases mineral aggregates can be extracted and the subject lands can be rehabilitated to their former agricultural quality and uses. As such, mineral aggregate extraction can be an interim use. In those circumstances where it is demonstrated to be necessary to go below the water table to obtain the mineral aggregates, complete agricultural rehabilitation may not be possible.

In preparing official plans, one should clearly identify prime agricultural areas and the areas of potential mineral aggregates. In all cases prime agricultural areas are to be identified on the land use schedule; potential mineral aggregates should be identified according to policy F.1.

Policies in the official plan must provide for agriculture as the recommended and approved after-use for rehabilitated aggregate extractions on prime agricultural lands in prime agricultural areas, except where aggregate extraction occurs below the water table. In all cases the after-use permitted in a prime agricultural area must meet the provisions of the goal D policies.

Policy D4 applies only to prime agricultural *lands* in prime agricultural *areas*. For example, the policies do not apply to prime agricultural lands outside a defined prime agricultural area or to marginal agricultural lands within a prime agricultural area. It is not the intent of the policy to limit or prevent rehabilitation to agriculture as an after use in areas of non-prime agricultural lands.

Agricultural Rehabilitation for Lands Above the Water Table

A pit or quarry licensed under the *Aggregate Resources Act* by the Ministry of Natural Resources must be operated in accordance with the site plan approved with the licence. Progressive and final rehabilitation plans form a part of the approved site plan. In areas where extraction is to occur on prime agricultural lands, in prime agricultural areas, these plans will show how the site is to be rehabilitated to agriculture.

Agricultural rehabilitation has been successfully carried out on a variety of pit and quarry sites throughout the province. In preparing such rehabilitation plans, the following steps to ensure successful rehabilitation are required on the site plans:

- pre-planning for successful rehabilitation;
- progressive rehabilitation;
- topsoil and subsoil are stripped, stockpiled separately and replaced sequentially prior to seeding;

- earth moving operations during stripping and rehabilitation should take place only when the soils are dry. This will aid in reducing compaction and the possibility of slumping of side slopes;
- mitigation of soil compaction due to extraction or processing operations;
- grading and re-contouring of the extracted area be undertaken to provide for surface water drainage and/or cold air drainage requirements;
- a minimum of one metre of soil overlying the mean high water table be maintained to ensure adequate rooting depths;
- as soon as possible after replacement of topsoil, these areas should be seeded to a grass-legume mixture. Legumes are very important in terms of improving soil structure and adding nitrogen to the soil.

For further details on the above noted steps please refer to: *Agriculture and the Aggregate Industry: Industrial Mineral Background Paper 3*; published by Ministry of Natural Resources and *Rehabilitation of Sand and Gravel Pits for Fruit Production in Ontario: Industrial Mineral Background Paper 6*; also published by the Ministry of Natural Resources.

With regards to rehabilitation to substantially the same area and soil quality for agriculture, it is the intent to return as much of class 1, 2 and 3 soils to agriculture as was previously the case prior to extraction. This is achievable in most cases. Slight losses in area may be due to the creations of slopes resulting from the banks of the pits that did not exist previously. In some cases it is possible to add potential agricultural areas or improve on the soil capability for agriculture. For example, the levelling of slopes that were previously topographic limitations may improve the soil capability for agriculture.

Extraction Below the Water Table

It is recognized that in some cases complete agricultural rehabilitation is not possible. Policy D4 sets out the criteria to be used in the consideration of proposals for aggregate extraction below the water table on prime agricultural lands in prime agricultural areas. These criteria are:

1. "a) there is a substantial quantity of *mineral aggregate* below the water table warranting extraction below the water table;"

At a minimum the applicant should document the following:

- whether the sand or gravel deposits are classified as deposits of primary, secondary or tertiary significance as identified in the Aggregate Resource Inventory Papers; and if not previously identified what the equivalent ranking would be;

- the quantity of resource below the water table versus the amount of resource above the water table on the site and the number of tonnes to be extracted annually;
 - the rationale for needing to extract below the water table.
- 2 "b) other alternatives have been considered by the applicant and found unsuitable. Other alternatives include resources in areas of classes 4 to 7 agricultural lands, resources on lands committed to future urban uses, and resources on *prime agricultural lands* where rehabilitation to agriculture is possible;"

The alternatives considered unsuitable must include an examination of similar aggregate resources in the market area. Market area refers to those areas where the product may be sold, and as such does not necessarily correspond with municipal boundaries. Such alternatives would include:

- areas of lower capability agricultural lands;
 - undeveloped areas designated for future urban uses, or non-agricultural uses;
 - lands in prime agricultural areas where extraction below the water table is not necessary;
 - lands adjacent to an existing licensed pit or quarry where extraction could be extended to surrounding lands.
- 3 "c) in those areas remaining above the water table following extraction, agricultural rehabilitation will be maximized."

This part of the policy should consider the following documentation:

- staged rehabilitation wherever possible, to have the least impact on nearby agricultural operations;
- a rehabilitation plan demonstrating agricultural rehabilitation of as much of the site as possible and uses that are compatible with agriculture. Given the site is within an agricultural area, after uses must meet the provisions of the prime agricultural area designation

2.5

Policy D 5 Minimum Distance Separation

Policy D5 explains that:

"New *development*₁, and land uses, and new or expanding livestock facilities will comply with the *minimum distance separation formulae*."

The purpose of the Minimum Distance Separation (MDS) formulae is to prevent land use conflicts by providing adequate separation distances between existing uses and new buildings, whether for farm or non-farm purposes. The application of the MDS formulae applies in both prime agricultural areas and other rural designations. This application must be reflected in official plans and zoning by-laws.

The 1976 *Agricultural Code of Practice* contained formulae for separating non-farm uses from barns and manure storage facilities. The "Minimum Distance Separation Formula I" and "Minimum Distance Separation Formulae II" in Appendix C and the *Guide to Agricultural Land Use* are the successors to the 1976 *Agricultural Code of Practice*. Where reference has been previously made to the 1976 Code or its formulae, the reference should now be interpreted as referring to the new formulae in the appendix.

Agriculture is the primary use of agriculturally designated land. The agricultural community generally acknowledges that even with the best management, noise and dust cannot be eliminated from certain agricultural operations and that odours are associated with livestock production. The MDS formulae are intended to prevent odour complaints by establishing setbacks between incompatible land uses. Experience has shown that appropriate separations reduce the likelihood of odour complaints.

Reference to the MDS Formula I and MDS Formula II must be included in official plans. The separation distances must be adhered to in all planning applications, including severances. Both formulae must also be included in the appropriate zoning by-laws. These formulae are to be applied both to new and expanding barns and manure storage facilities and to new non-farm uses. The actual distances will vary depending on the type of operation, the size of the operation, the type of manure storage system and the type of non-farm use.

Staff of the Ministry of Agriculture, Food and Rural Affairs can be consulted on training for implementation.

Appendix

The Canada Land Inventory Soil Capability Classification System for Agriculture

The Canada Land Inventory (CLI) system “Soil Capability Classification for Agriculture” is the recognized system in Ontario for classifying **mineral soils** according to their inherent capability for agriculture.¹ Soil classification guidelines and publications, including soil capability maps, which are based on the CLI system, are available for land use planning and other uses. Although other systems of classifying land have been developed, the CLI system continues to be the accepted system in Ontario.

The CLI soil capability classification system for agriculture is an interpretive classification system. It was developed under the auspices of the Agricultural Rehabilitation and Development Act (ARDA), which established a cooperative federal-provincial program aimed at providing a comprehensive national survey of land capability and use for various purposes.

The two main components of the system are: 1) the **capability class**, and 2) the **capability subclass**. The capability class indicates the general capability of the soil for growing common field crops. Common field crops include corn, wheat, oats, barley, and perennial forage crops such as alfalfa, timothy or brome grass, or bird’s-foot trefoil. Seven capability classes have been defined which are further explained in Table 1.

The capability subclass indicates the type of limitation or hazard for growing common field crops. Thirteen subclasses have been defined which are further explained in Table 2.

If the same level of management is applied to different classes of soils they will differ in productivity. Relative productivities, for common field crops, of different classes are presented in Table 3. Common field crops include corn, oats, wheat and barley.

¹ **Suitability ratings for many specialty crops** have been determined and are provided in tables included in soil reports published since 1984. The suitability ratings for special crops are often unique to each survey area. Instructions are included in the reports for using the suitability rating tables to determine the appropriate rating for soils shown on the soil maps for the survey areas.

Table 1 Capability Classes

Class	Explanation
Classes 1,2,3	- Capable of sustained use for growing common field crops; all or most crops can be grown.
Class 4	- Marginal for sustained use for common field crops; choice of crops that can be grown is limited.
Class 5	- Capable of use only for permanent pasture and hay.
Class 6	- Capable of use only for unimproved pasture.
Class 7	- No capability for agriculture.

Table 2 Capability Subclasses

Subclass	Explanation
C	- adverse climate
D	- undesirable soil structure and/or permeability
E	- damage from erosion
F	- low fertility
I	- flooding (inundation) by rivers, streams, or lakes
M	- low moisture holding capacity (droughtiness)
N	- high concentration of soluble salts
P	- surface stoniness
R	- shallowness to bedrock
S	- two or more of subclasses D, F, M and N
T	- adverse topography
W	- excess wetness
X	- two or more minor adverse characteristics

Soil Capability Ratings

A soil capability rating consists of a capability class number followed by not more than two subclasses represented by their appropriate letters (e.g. 2W, 3FM). The severity of the limitations identified by the subclasses shown in the rating has influenced the class designation. Two subclasses may be shown in a capability rating when: 1) they represent limitations which are equal in severity, and both place the soil in the same capability class; or 2) they represent a combination of limitations which together place the soil in a certain class.

Both single and complexed soil capability ratings may be shown on capability maps. A single rating is shown in a map symbol when only one soil occurs (e.g. 2T or 3W). When two soils occur in an area shown on the map, a complexed capability rating is shown which includes separate ratings for each soil. The proportions of the area represented by each rating are indicated by a small arabic numeral shown as a superscript after each rating. The numeric superscripts denote the proportion of the area out of a total of 10. For example, if the capability rating shown is 2T⁷ 5R³, then 70% of the area is Class 2T and 30% is Class 5R.

Constraints in Using CLI

The classification system is applied only to mineral soils. It cannot be used to classify organic soils; organic soils are simply designated by the letter "O" on soil capability maps and have no rating.

Soil surveys in Ontario generally describe soil characteristics which occur uniformly over large areas. Soil characteristics which occur irregularly, or in areas which are too small to be shown on the soil maps, are usually not described. As a result, the CLI classification system does not provide guidelines and criteria needed to classify some soils in Ontario.

Soil capability maps published in Ontario present information at various levels of detail, depending on the scale of the maps. Small scale maps such as the 1:250,000 CLI capability maps cannot show areas smaller than 250 hectares in size (see Table 4). As a result, capability ratings are given for only the most commonly occurring soils. Larger scale maps such as the 1:50,000 CLI maps provide more detailed information, but cannot show areas which are less than 12 hectares in size. Capability ratings for some soils, if they occur in small areas, may not be shown on those maps.

Table 3 Productivity Index

Soil class	Common field crop productivity index
1	1.00
2	0.80
3	0.64
4	0.49
5	no value
6	no value
7	no value

Sources: ARDA Report No. 4, *The Assessment of Soil Productivity for Agriculture*.

Table 4 Scale Relationships

Map scale	Field distances represented by map lines		Minimum area identifiable on map (40 mm ² on map)	
	-metres-	-feet-	-hectares-	-acres-
1:1000000	1000	32500	4000	9900
1:500000	500	1675	1000	2500
1:250000	250	812	250	620
1:125000	125	400	62.5	150
1:50000	50	160	10.0	25
1:25000	25	80	2.5	6
1:10000	10	32	0.4	1
1:5000	5	16	0.1	0.25

Soil capability maps at a scale of 1:50,000 are best suited for municipal planning purposes. Soil capability maps at a scale of 1:25,000, 1:10,000 or greater are best suited for site-specific applications.

Classification System Assumption

The CLI classification system is based on certain assumptions which must be understood before the system can be applied. An understanding of the assumptions is also important in order to efficiently use published soil capability information such as capability maps. The assumptions are as follows:

1. The need for improvement of land by removal of natural vegetation such as shrubs, trees and stumps is not considered a limitation to agricultural use.
2. The soils will be well managed and cropped under a largely mechanized system.
3. The soils within a capability class are similar with respect to degree but not to kind of limitation(s) in soil use for agricultural purposes.
4. Land requiring improvements, such as stone removal or tile drainage, that are feasible and can be done by the individual farmer or landowner is classified according to its limitations or hazards in use after the improvements have been made. The resulting class, therefore, reflects the potential capability of the land in an improved state.
5. The capability classification of the soils in an area may be changed when major reclamation works or improvements are carried out which permanently change the limitations in use for agriculture.
6. Capability classes are subject to change as new information on the properties, behaviour, and responses of soils becomes available. In some cases technological advances may also necessitate changes.

7. The following are not considered: distances to market, kind of roads, location or size of farms, type of ownership, cultural patterns, skills or resources of individual operators, and risk of crop damage by storm.
8. Other field crops, such as soybeans or white beans, and specialty crops (including fruits and vegetables) have not been included in the development of the classification system.

Information Sources

1. Soil Capability Maps

Soil capability maps at scales of 1:250,000, 1:50,000 and 1:25,000 have been produced for most areas of Ontario where agriculture is practised. These maps portray the agricultural capabilities of the soils which occur, and provide a method of comparing different mineral soils on the basis of their potential productivity for common field crops. They do not provide information on present use or productivity.

2. Soil Survey Reports

Some soil survey reports published for counties or regional municipalities in Ontario include soil capability information based on the CLI classification system. The capability information provided by these reports, especially the most recent survey reports, is generally more detailed than the information shown on previously published capability maps for the survey areas. Survey methods including intensive field checking and sampling have been used to produce the soil maps included in the reports.

3. Soil Capability Classification Manual

The manual titled "Soil Capability Classification for Agriculture in Ontario" should be used to classify soils on a site-specific basis. The manual describes the CLI classification system as it is applied in Ontario, and provides the guidelines and soil criteria needed to classify a soil. The manual is available from the Information Centre of the Ontario Ministry of Agriculture, Food and Rural Affairs.

4. Digital Soil Capability Information for Geographic Information Systems (GIS)

Digitized soil capability information in computer file format is available for some areas of Ontario. Requests for such information should be directed to the Ontario Ministry of Agriculture, Food and Rural Affairs.

Appendix

Alternative Land Evaluation System

(Not included in this Draft)

Appendix

Minimum Distance Separation Formulae

Minimum Distance Separation I

(MDS I)

(Replaces the Minimum Distance Separation Formula I
in the *Agricultural Code of Practice*, 1976)

Ontario Ministry of Agriculture, Food and Rural Affairs

Ontario Ministry of Environment and Energy

This document is to be used for the review of planning and development applications.
It provides distance separation requirements between existing farm and new non-farm uses.

January 1995



Background

A principle of land use planning is the grouping together of compatible land uses and the separating of incompatible land uses. Industrial parks, residential subdivisions and commercial areas as separate parts of an urban area are a reflection of this principle.

The agricultural community generally acknowledges that even with the best management, noise and dust cannot be eliminated from certain agricultural operations and that odours are associated with livestock production. Not all rural residents, including some farmers, can accept these conditions particularly when the nuisance is perceived to exceed acceptable levels.

In rural areas, the principle of separating different and incompatible land uses has not always been applied. Where there has been sufficient separation distance between differing rural uses, however, there have been few complaints. The distance separation will vary with the source of the potential complaint and the sensitivity of the neighbouring land use.

Should complaints about odours, noise or dust occur, the Ministry of the Environment and Energy will respond. If the complaint is valid, Ministry of the Environment and Energy staff in cooperation with the farm operator and in consultation with Ministry of Agriculture, Food and Rural Affairs staff recommend measures to resolve the complaint. If the complainant still has concerns they may request a hearing by the Farm Practices Protection Board. This Board can only hold hearings in regard to odour, dust or noise concerns. The Board rules whether the occurrence stems from a normal farming practice.

The Minimum Distance Separation (MDS) is a tool to determine a recommended distance separation between a livestock facility and another land use. The objective is to prevent those land use conflicts and complaints which may arise from livestock odour. Minimum Distance Separation tables can be used by farmers, rural land owners, and land use decision makers.

Minimum Distance Separation will vary according to a number of variables including type of livestock, size of the farm operation, type of manure system and the form of development present or proposed.

MDS I provides minimum distance separation for new development from existing livestock facilities.

MDS II provides minimum distance separation for new or expanding livestock facilities from existing or approved development.

The *Guide To Agricultural Land Use* contains advice on avoiding or reducing the potential for conflict between neighbouring land uses through appropriate farm practices.

These three above documents replace the 1976 *Agricultural Code of Practice*.

Ultimately, land use planning decisions (including MDS) and good farm practices must go hand-in-hand to promote harmony in the rural community and to ensure agriculture as an ongoing activity.

Implementation Guidelines

General

1. MDS formulae and criteria are to be referenced in official plans and included in by-laws and are to be applied in designations and zones where livestock facilities are a permitted use and is to be implemented at the time of planning and/or development review.
2. MDS I applies when locating development in proximity to existing livestock facilities on an existing or proposed separate parcel of land.
3. MDS I calculates a separation distance based on either the actual housing capacity or potential capacity according to tillable hectares (maximum 150 Livestock Units), whichever is greater.
4. MDS I is applied in any non-urban designation where agriculture and the keeping of livestock is a permitted use. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) does not apply MDS I to proposed non-agricultural uses in an approved urban designation; however, individual municipalities may require that MDS I separation distances be met for livestock facilities located within an urban designation as stipulated in their Official Plan or Zoning By-law.
5. MDS I applies to empty livestock facilities if they are structurally sound and reasonably capable of housing livestock. In such cases, Animal Group (see Table 1) will be based upon the most probable use. Potential housing capacity will be based on Canada Plan Service data, available from any OMAFRA office.
6. MDS I is applied to urban expansions. In this instance only, the separation distance is based on the existing housing capacity and not tillable hectares.
7. MDS I only applies to livestock facilities. It is not used to calculate separation distances from uses such as abattoirs, apiaries, greenhouses, kennels and mushroom farms.
8. The direction of the prevailing winds, the presence of berms or other forms of screening do not affect MDS I.
9. The separation distances generated allow for some future expansion of adjacent livestock facilities.
10. MDS I is to be applied to new applications even though there may be existing non-farm uses that do not conform to the MDS I requirements. Where there are more than 3 non-farm uses in immediate proximity (ie. closer to the livestock facility than the proposed development) to the current application, however, MDS I may not be applied. Nonetheless, the proposed development must not be located any closer to the livestock facility than the existing non-farm uses.

Official Plan Amendments

11. In addition to Guideline #1 above, MDS I is to be applied to lands being considered for a non-agricultural designation through the Official Plan Amendment process.

Zoning By-Law Amendments

12. In addition to Guideline #1 above, MDS I is to be applied when new development is proposed by way of a re-zoning in a designation where agriculture is a permitted use.

Consent Applications

13. MDS I is to be applied to a proposed lot, whether vacant or with existing structures.
14. MDS I is not to be applied to a proposed lot for an existing building when that building is already located on a parcel of land separate from the subject livestock facility.

Lots of Record

15. Municipalities have the option, but are encouraged, to apply MDS I to buildings proposed for existing lots of record. The application of MDS I in such cases will take direction from the municipal official plan.

Measurement

16. Applications to create an industrial, commercial, institutional, recreational or residential uses by consent or subdivision are measured as the shortest distance between the livestock facility and the area of land use change.
17. If the consent is for a residential lot (vacant or residence existing) and the lot is no greater than the size required to provide private septic services (generally no greater than 1 hectare in size), the measurement is taken as the shortest distance between the livestock facility and the lot line of the lot being created.
18. Where larger lots may be permitted, a suitable location must be identified for a building envelope of approximately one hectare outside of the applicable minimum separation distance.

Definitions

Active Recreational Use:

recreational use usually with buildings and/or with a concentration of users such as golf courses, other playing fields, trailer parks, campgrounds and conservation areas with facilities.

Agriculturally Related Commercial/Industrial Uses:

uses directly related to agriculture and necessary in close proximity to farm operations, such as animal husbandry services, produce or grain storage facilities, or farm machinery outlets.

Animal Group:

livestock and poultry grouped according to their manure production.

Housing Capacity:

total maximum livestock capacity for the facility at any one time.

Livestock Facilities:

livestock barns where animals or poultry are housed, including beef feedlots, and the associated manure storage.

Livestock Unit:

equivalent values for various types of animals and poultry based on manure production and production cycles.

Multiple Residential:

three or more residential units in same building.

Passive Recreational Use:

recreational use not requiring buildings and not altering the soil or topography, such as open space and environmental areas.

Rural Residential Cluster:

more than 3 adjacent rural residential lots, generally 1 hectare or less in size, sharing a common boundary. Lots located directly across a road from one another shall be considered as having a common boundary.

Tillable Hectares:

land including pasture that can be worked or cultivated.

Urban Expansion:

outward expansion of cities, towns, villages, and hamlets for such uses as residential, recreational, institutional, and commercial and industrial.

Minimum Distance Separation I (MDS I)

Calculation sheet for non-agricultural uses

Use: To determine the required Minimum Distance Separation (MDS I) for non-agricultural uses establishing or expanding in proximity to livestock facilities

Purpose: To reduce the potential for odour conflicts between existing livestock facilities and proposed neighbouring land uses

Application: MDS will be used for:

- assessing official plan amendments
- assessing zoning bylaw amendments
- evaluating consent applications
- other land use proposals

The following information is to be completed as it relates to the livestock operation. A separate calculation sheet is to be filled out for each livestock operation in proximity to the proposed non-agricultural use.

Applicant's Name _____ Phone () _____

Address _____ Postal Code _____

Farmer's Name _____ Phone () _____

Address _____ Postal Code _____

County/Region _____ Township _____ Lot _____ Conc. _____

File # _____ Evaluation date _____ Evaluator _____

Minimum Distance Separation required from Livestock Facility = _____ metres (from Table 2)

Actual distance as reported or estimated from Livestock Facility = _____ metres

Minimum Distance Separation required from Manure Storage = _____ metres (from Table 3)

Actual distance as reported or estimated from Manure Storage = _____ metres

This application ☐ meets ☐ does not meet MDS requirements for the barn and manure storage.

Assessment of the Livestock Facility

To calculate Livestock Units, complete Step 1 based on information in Table 1 below.

Step 1. Total Livestock Units

Column 1 Type of Livestock	Column 2 Housing Capacity	Column 3 Number of Animals per Livestock Unit (From Table 1)	Column 4 Number of Livestock Units (Col. 2/Col. 3)
(A) = Total Livestock Units (sum of Column 4)			(A)

If there are more than 300 livestock units, reference must be made to a full set of tables available from the Ontario Ministry of Agriculture, Food and Rural Affairs

Table 1. Animal Groups

Animal Group 1	Animal Group 2	Animal Group 3	Animal Group 4	Animal Group 5
1 Livestock Unit equals	1 Livestock Unit equals	1 Livestock Unit equals	1 Livestock Unit equals	1 Livestock Unit equals
200 .. Chicken Broilers 1 Horse ³	4 Adult Sheep ³ 1 Beef Cow ¹ Confinement 10 Feeder Lambs 100 ... Ducks 5 Emu 4 Adult Goats ³ 10 Feeder Goats 3 Ostrich 500 ... Pullets 50 Turkeys (>10kg) 75 Turkeys (5-10kg) 100 ... Turkeys (<5kg)	1 Beef Cow ¹ Yard/Barn 2 Beef Feeder ¹ Yard/Barn 1 Dairy Cow ^{1,2} 2 Dairy Heifer ¹ Yard/Barn 40 Adult Rabbits ⁴ 3 Red Veal <300kg 125 ... Chicken Breeder Layers 75 Turkey Breeder Layers	80 Adult Mink ⁴ 40 Adult Fox ⁴ 125 ... Caged Layers	4 Feeder Hogs 5 Sows/Boars 20 ... Weaners 4-30kg 6 White Veal

¹ Includes calf to 150 kg, ² Multiply the number of milking cows by 1.5 to account for dry cows, heifers and calves on the same farm,

³ Includes offspring until weaned, ⁴ Includes offspring to market size.

Select Animal Group **1, 2, 3, 4, or 5**, depending on type of animals on farm. If there are animals from different groups, select the highest group number. The group number is used when referring to Table 2.

Step 2. Land Base Assessment (B)

Number of tillable hectares* on site _____ x 5 = _____ (B) Potential Livestock Units

* Maximum (B) is 150 Livestock Units.

Step 3.

Enter the *greater of* (A) Total Livestock Units *or* (B) Potential Livestock Units _____

Use this figure to enter Column 1 of

Table 2.

Step 4. Table 2. Minimum Distance Separation from Livestock Facility

Read across appropriate line from Column 1 to respective Animal Group and Land Use Type. This number is the Minimum Distance Separation requirement in metres from a livestock facility.

Column 1	Type "A" Land Use					Type "B" Land Use				
	To permit: <ul style="list-style-type: none"> • Up to 3 rural residential lots, either by consent or by plan of subdivision • the severance of an existing dwelling • passive recreational • the building of a dwelling on an existing lot of record • agriculturally related commercial • industrial 					To permit: <ul style="list-style-type: none"> • residential subdivision • active recreational • institutional • commercial • urban expansion • multiple residential • or result in a Rural Residential Cluster 				
Greater of Livestock Units (a) or Potential Livestock Units (b)	Animal Group					Animal Group				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
1-5	39	42	48	60	85	73	78	90	112	160
10	55	60	68	85	98	104	112	128	160	183
15	65	70	80	100	115	122	132	151	188	215
20	72	78	89	111	127	135	146	167	208	238
25	78	84	95	119	136	146	157	179	224	256
30	82	88	101	126	144	154	166	189	237	271
35	86	92	106	132	151	161	173	198	247	283
40	89	96	110	137	157	167	180	206	257	294
45	92	99	113	142	162	173	186	213	266	304
50	95	102	117	146	167	178	192	219	274	313
55	98	105	120	150	172	183	197	225	282	322
60	100	108	123	154	176	188	202	231	289	330
65	102	110	126	158	180	192	207	236	295	338
70	105	113	129	161	184	196	211	241	302	345
75	107	115	131	164	188	200	215	246	308	352
80	109	117	134	167	191	204	219	251	313	358
85	111	119	136	170	194	207	223	255	319	364
90	112	121	138	173	198	211	227	259	324	370
95	114	123	140	176	201	214	230	263	329	376
100	116	125	143	178	204	217	234	267	334	382
110	119	128	146	183	209	223	240	275	343	392
120	122	131	150	188	214	229	246	281	352	402
130	125	134	154	192	219	234	252	288	360	411
140	127	137	157	196	224	239	257	294	368	420
150	130	140	160	200	228	244	262	300	375	428
160	133	143	164	205	234	250	269	307	384	439
170	136	147	168	210	240	256	275	314	393	449
180	139	150	172	214	245	262	282	322	402	460
190	143	154	175	219	251	268	288	329	411	470
200	146	157	179	224	256	273	294	336	420	480
210	149	160	183	229	262	279	301	344	429	491
220	152	164	187	234	267	285	307	351	439	501
230	155	167	191	239	273	291	313	358	448	512
240	158	171	195	244	278	297	320	365	457	522
250	162	174	199	248	284	303	326	373	466	532
260	165	177	203	253	290	309	332	380	475	543
270	168	181	207	258	295	315	339	387	484	553
280	171	184	210	263	301	321	345	395	493	564
290	174	188	214	268	306	327	352	402	502	574
300	177	191	218	273	312	333	358	409	511	584

Step 5. Table 3. Minimum Distance Separation from Manure Storage

The following table is used to calculate MDS requirements in metres from manure storages associated with livestock facilities.

Using the resulting MDS distance from Table 2, read across the appropriate line to Column 1, 2, 3 or 4. Select the distance under the appropriate Land Use Type.

This is the **Minimum Distance Separation Requirement** from the manure storage of a livestock facility for the establishment of a non-farm use.

Column 1: Roofed or covered manure storage. Includes covered concrete and steel tanks, storages under fully slatted floors, in-barn solid manure packs, and roofed manure storages.

Column 2: Open solid manure pile on concrete slab including any associated runoff control and storage.

Column 3: Open concrete or steel tank, silo or yard runoff storage.

Column 4: Open, earth-sided storage OR earth-sided storage with concrete floor.

MANURE STORAGE DISTANCE

Distance for Livestock Facility from Table 2 (Step 4).	Column 1		Column 2		Column 3		Column 4	
	Covered Storage		Open Solid Storage		Open Liquid Tank Silo and Yard Runoff Storage		Earthen Manure Storage	
	Type "A" Land Use	Type "B" Land Use	Type "A" Land Use	Type "B" Land Use	Type "A" Land Use	Type "B" Land Use	Type "A" Land Use	Type "B" Land Use
40	40	-	55	-	119	-	324	-
45	45	-	60	-	123	-	326	-
50	50	-	65	-	127	-	328	-
55	55	-	70	-	132	-	331	-
60	60	-	74	-	136	-	333	-
65	65	-	79	-	140	-	335	-
70	70	70	84	103	144	241	337	686
75	75	75	89	107	149	246	339	689
80	80	80	94	112	153	250	342	691
85	85	85	99	117	157	254	344	693
90	90	90	103	122	161	258	346	695
95	95	95	108	127	165	263	348	698
100	100	100	113	132	170	267	351	700
110	110	110	123	141	178	275	355	704
120	120	120	133	151	187	284	359	709
130	130	130	142	161	195	292	364	713
140	140	140	152	171	203	301	368	717
150	150	150	162	180	212	309	373	722
160	160	160	172	190	220	318	377	726
170	170	170	181	200	229	326	382	731
180	180	180	191	209	237	335	386	735
190	190	190	201	219	246	343	390	740
200	200	200	210	229	254	351	395	744
210	210	210	220	239	263	360	399	749
220	220	220	230	248	271	368	404	753
230	230	230	239	258	280	377	408	757
240	240	240	249	268	288	385	413	762
260	260	260	268	287	305	402	421	771
280	280	280	288	307	322	419	430	780
300	300	300	307	326	339	436	439	788
320	320	320	327	346	356	453	448	797
340	340	340	346	365	372	470	457	806
360	360	360	366	385	389	487	466	815
380	380	380	385	404	406	504	475	825
400	400	400	404	423	423	521	483	833
450	450	450	453	472	465	563	506	855
500	500	500	501	520	508	605	528	877
550	550	550	550	569	550	648	550	899

Minimum Distance Separation II

(MDS II)

(Replaces the Minimum Distance Separation Formula II
in the *Agricultural Code of Practice*, 1976)

Ontario Ministry of Agriculture, Food and Rural Affairs

Ontario Ministry of Environment and Energy

This document provides minimum distance separation requirements
for livestock facilities within agricultural areas.

January 1995



Background

A principle of land use planning is the grouping together of compatible land uses and the separating of incompatible land uses. Industrial parks, residential subdivisions and commercial areas as separate parts of an urban area are a reflection of this principle.

The agricultural community generally acknowledges that even with the best management, noise and dust cannot be eliminated from certain agricultural operations and that odours are associated with livestock production. Not all rural residents, including some farmers, can accept these conditions particularly when the nuisance is perceived to exceed acceptable levels.

In rural areas, the principle of separating different and incompatible land uses has not always been applied. Where there has been sufficient separation distance between differing rural uses, however, there have been few complaints. The distance separation will vary with the source of the potential complaint and the sensitivity of the neighbouring land use.

Should complaints about odours, noise or dust occur, the Ministry of the Environment and Energy will respond. If the complaint is valid, Ministry of the Environment and Energy staff in cooperation with the farm operator and in consultation with Ministry of Agriculture, Food and Rural Affairs staff recommend measures to resolve the complaint. If the complainant still has concerns they may request a hearing by the Farm Practices Protection Board. This Board can only hold hearings in regard to odour, dust or noise concerns. The Board rules whether the occurrence stems from a normal farming practice.

The Minimum Distance Separation (MDS) is a tool to determine a recommended distance separation between a livestock facility and another land use. The objective is to prevent those land use conflicts and complaints which may arise from livestock odour. Minimum Distance Separation tables can be used by farmers, rural land owners, and land use decision makers.

Minimum Distance Separation will vary according to a number of variables including type of livestock, size of the farm operation, type of manure system and the form of development present or proposed.

MDS I provides minimum distance separation for new development from existing livestock facilities.

MDS II provides minimum distance separation for new or expanding livestock facilities from existing or approved development.

The *Guide To Agricultural Land Use* contains advice on avoiding or reducing the potential for conflict between neighbouring land uses through appropriate farm practices.

These three above documents replace the 1976 *Agricultural Code of Practice*.

Ultimately, land use planning decisions (including MDS) and good farm practices must go hand-in-hand to promote harmony in the rural community and to ensure agriculture as an ongoing activity.

Implementation Guidelines

The applicant completes the MDS II Data Sheet available from OMAFRA or municipal offices. The completed data sheet is submitted to the OMAFRA Agricultural Engineer, or, in some municipalities, directly to the municipal office for determination of separation distances.

General

1. MDS formulae and criteria are to be referenced in official plans and included in by-laws and are to be applied in designations and zones where livestock facilities are a permitted use and is to be implemented at the time of planning and/or development review.
2. MDS II applies when an application is made for a new, existing, modified or expanding livestock facility. The application may be for a building permit or an application under the Ontario Certificate of Compliance Program.
3. MDS II applies only to livestock and poultry facilities. It is not used to calculate separation distances from uses such as kennels, apiaries, greenhouses and mushroom farms.
4. MDS II is to be applied in any non-urban designation where agriculture and the keeping of livestock is a permitted use. MDS II is not applied where the livestock facility is within an approved urban designation.
5. The direction of the prevailing winds, the presence of berms or other forms of screening do not affect the calculated MDS II distance.
6. In cases of rebuilding such as after a fire, municipalities have the option of applying MDS II.
7. Minor variances to the MDS II distances can be considered based on site specific circumstances. Municipal officials must consult with Ontario Ministry of Agriculture, Food & Rural Affairs staff when considering a variance application. Conditions that meet the intent, if not the precise distance of MDS or mitigate environmental impacts, will receive further consideration.

Measurement

8. Distances to the Nearest Neighbours Dwelling are measured as the shortest distance between the barn, or manure storage and the dwelling.
9. Distances to Residential Subdivisions, Urban Areas, areas zoned or designated Agriculturally Related Commercial Use, Passive Recreational, Institutional, Active Recreational or Commercial/Industrial are measured as the shortest distance between the barn or manure storage and the land uses noted above.
10. Distances to the Nearest Side Lot Line, Rear Lot Line, and Nearest Road Allowance are measured between the closest point of the barn or manure storage and the lot line or road allowance.
11. All distances are measured from the closest point of the barn used for animal housing.

Definitions

Active Recreational Use:

recreational use usually with buildings and/or with a concentration of users such as golf courses, other playing fields, trailer parks, campgrounds and conservation areas with facilities.

Agriculturally Related Commercial Uses:

uses directly related to agriculture and necessary in close proximity to farm operations, such as animal husbandry services, produce or grain storage facilities, or farm machinery outlets.

Housing Capacity:

total maximum livestock/poultry capacity for the facility at any one time.

Institutional Use:

uses such as schools, churches, hospitals, seniors complexes.

Livestock Facilities:

livestock/poultry barns where agricultural animals are housed and the associated manure storage.

Livestock Unit:

equivalent values for various types of animals including poultry, based on manure production and production cycles.

Passive Recreational Use:

recreational use not requiring buildings and not altering the soil or topography, such as open space and environmental areas.

Residential Area:

areas zoned or designated residential.

Tillable Hectares:

land, including pasture, that can be worked or cultivated.

Urban Area:

cities, towns, villages, and hamlets for such uses as residential, recreational, institutional, commercial and industrial.

Minimum Distance Separation II Data Sheet

- Use:** To determine the required distance separation requirements for livestock and poultry facilities within agricultural areas.
- Purpose:** To permit the orderly development of livestock operations within agricultural areas, and to reduce the potential for environmental conflicts between livestock or poultry operations and incompatible land uses.
- Application:**
- As a method of siting livestock and poultry housing and manure facilities by municipalities through incorporation into by-laws as authorized under the Planning Act.
 - As a guideline for certification of new, proposed expansion of or modification of livestock facilities under the Ontario Certificate of Compliance Program.

The following is to be completed as it relates to the livestock/poultry operation.

Farm Name _____ Owner _____

Farm Location: County/Region _____ Twp. _____ Lot _____ Con. _____

Address _____ Postal Code _____

Phone () _____ Fax () _____

This project consists of:

- | | |
|------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <input type="checkbox"/> existing livestock or poultry facilities | <input type="checkbox"/> new livestock or poultry facilities |
| <input type="checkbox"/> modifications to existing livestock or poultry facilities | <input type="checkbox"/> pollution abatement program |
| <input type="checkbox"/> manure storage | <input type="checkbox"/> rebuilding (<i>i.e.</i> after fire) |

Use the table below to list the type and number of livestock or poultry housed at any one time on the property:

Type of Animal Housed/Fenced	Housing Capacity	
	Existing Operation	Final Operation
e.g., chicken broilers	20000	22000

Manure Storage Information:

Dry Manure Collection

- ☐ Stable cleaner/belts
- ☐ Tractor scraper
- ☐ Manure pack in barn
- ☐ _____

Dry Manure Storage

- ☐ Manure pack
- ☐ Roofed solid storage
- ☐ Open solid storage with concrete runoff tank
- ☐ Open solid storage with earthen runoff tank
- ☐ Open solid storage
- ☐ _____

Liquid Manure Collection

- ☐ Stable cleaner, alley scraper
- ☐ Flush system
- ☐ Flow gutter, fully-slatted fully-slatted floors
- ☐ Flow gutter, partially-slatted floors
- ☐ Full storage under slats
- ☐ _____

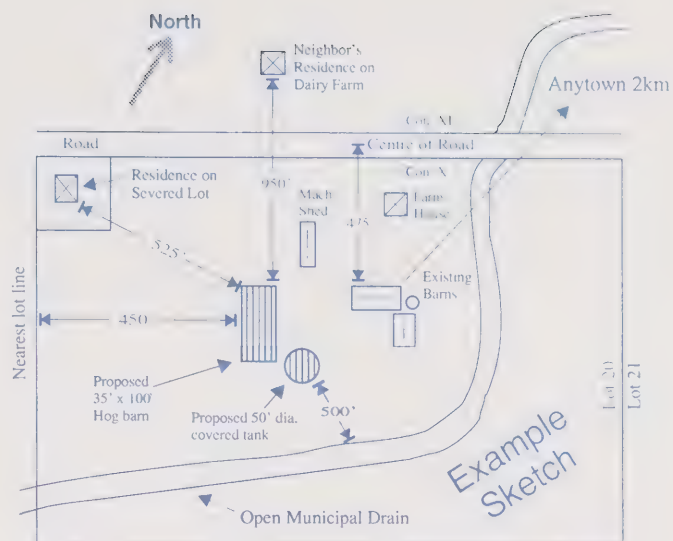
Liquid Manure Storage

- ☐ Full storage under slats
- ☐ Open concrete or steel storage
- ☐ Open earthen storage
- ☐ Covered concrete storage
- ☐ _____

Sketch:

The following items must be shown on the property sketch (below):

- Location of all lot lines.
- North direction.
- Location and size of all existing and proposed buildings on the property.
- Distances in metres from proposed structures to public roads and neighbouring dwellings.
- Location and distance in metres of subject structures to all streams, ditches, municipal drains, severances, etc.
- Location to all manure tanks, pads and earthen storages.
- Location and distances in metres from subject structures to nearest area zoned 'Residential'.
- Locate and identify (drilled, dug) water wells.
- Current use of lands/buildings adjacent to property.
- Any other unusual siting conditions.



Draw sketch below: (if necessary, please attach additional drawings for clarification)

I Minimum Distance Separation II Calculation Form

Farm Name/Owner

Type of Livestock/Poultry	Existing Barn Capacity	Livestock Units	Additional Barn Capacity	Livestock Units	Total Barn Capacity	Livestock Units
Total 1			Total 2		Total 3	

Total 2 ⇒ []

Calculation of Percentage Increase:

----- x 100 = [] %

Total 1 ⇒ []

Factor A: Livestock/poultry to be added. Table 1

Factor A: []

Factor B: Total number of livestock units. Table 2

Factor B: []

Factor C: Percentage increase. Table 3

Factor C: []

Factor D: Type of manure system (Solid = 0.7, Liquid = 0.8) .

Factor D: []

Building Base distance (A x B x C x D)

Base Distance 'F': []

Manure Storage Base Distance. Table 4.....

Base Distance 'S': []

Minimum Distance Separation Summary:

Building: Base Distance	'F' [] metres	Manure Storage: Base Distance	'S' [] metres
----------------------------	---------------------------------	----------------------------------	---------------------------------

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Neighbouring land use or boundary	Factor	Distance "F" x Col. 2 (m)	Actual Distance (m)	Distance "S" x Col. 2 (m)	Actual Distance (m)
Nearest Neighbour's Dwelling	1.0				
Areas zoned or designated Agriculturally Related Commercial Use Passive Recreational or Industrial	1.0				
Areas zoned or designated Residential, Institutional, Active Recreational, or Commercial. Urban Areas	2.0				
Nearest Side or Rear Lot Line	0.2				
Nearest Road Allowance (Side or Front Lot Line)	0.25				

Table 1: Factor 'A' (Barn Odour Potential).

and Animals per Livestock Unit (based on housing capacity).

Animals per Livestock Unit				Factor A:
Beef	1	Beef Cow ¹	(barn confinement)	0.7
	1	" "	(barn with yard)	0.8
	2	Beef Feeders	(barn confinement)	0.7
	2	" "	(barn with yard)	0.8
Chicken	125	Caged Layers	(manure stored in barn)	1.0
	125	Caged Layers	(daily manure removal)	0.8
	125	Chicken Breeder Layers		0.8
	200	Chicken Broilers/Roasters		0.65
	500	Pullets (replacement layers)		0.7
Dairy	1	Milking Cow ^{1,2}	(tie-stall)	0.65
	1	" "	(free-stall)	0.7
	2	Dairy Heifers	(barn confinement)	0.7
	2	" "	(barn with yard)	0.8
Duck	100	Ducks		0.7
Emu	5	Emu		0.7
Fox	40	Adult Fox ⁴		1.1
Goat	4	Adult Goats ³		0.7
	10	Feeder Goats (>20 kg)		0.7
Horse	1	Horse ³		0.65
Mink	80	Adult Mink ⁴		1.1
Ostrich	3	Ostrich		0.7
Rabbit	40	Adult Rabbits ⁴		0.8
Sheep	4	Adult Sheep ³		0.7
	10	Feeder Lambs (>20 kg)		0.7
Swine	5	Sows/Boars		1.0
	4	Feeder Hogs (30-120 kg)		1.0
	20	Weaners (4-30 kg) ⁵		1.0
Turkey	50	Meat Turkeys (>10 kg)		0.7
	75	Meat Turkeys (5-10 kg)		0.7
	75	Turkey Breeder Layers		0.8
	100	Meat Turkeys (<5 kg)		0.7
	500	Pullets (replacement breeders)		0.7
Veal	6	White Veal		1.0
	3	Red Veal (<300 kg)		0.8

Notes: For all other animals/poultry use 1 livestock unit per 450 kg housed at one time (A=0.8).

¹Includes calf to 150 kg. ²A dairy/cow-calf farm usually has milking cows, dry cows, heifers and calves. Multiply the number of milking/nursing cows by 1.5 to account for the followers when they are all kept on the same farm. ³Includes offspring until weaned. ⁴Includes offspring to market size. ⁵Multiply number of sows by 2.4 to determine the number of weaners.

Table 2: FACTOR 'B' (Final Livestock Units).

Livestock Units	Factor B	Livestock Units	Factor B	Livestock Units	Factor B	Livestock Units	Factor B
5	— 107	95	— 313	500	— 578	1600	— 821
6	— 119	100	— 318	520	— 585	1650	— 829
7	— 129	110	— 327	540	— 592	1700	— 836
8	— 138	120	— 335	560	— 598	1750	— 844
9	— 145	130	— 343	580	— 605	1800	— 851
10	— 152	140	— 350	600	— 611	1850	— 858
12	— 164	150	— 357	620	— 617	1900	— 865
14	— 175	160	— 366	640	— 623	1950	— 872
16	— 183	170	— 374	660	— 629	2000	— 879
18	— 191	180	— 383	680	— 635	2100	— 892
20	— 198	190	— 392	700	— 640	2200	— 905
22	— 205	200	— 400	720	— 646	2300	— 917
24	— 210	210	— 409	740	— 651	2400	— 929
26	— 216	220	— 418	760	— 656	2500	— 941
28	— 221	230	— 426	780	— 661	2600	— 952
30	— 225	240	— 435	800	— 666	2700	— 963
32	— 230	250	— 444	850	— 679	2800	— 974
34	— 234	260	— 452	900	— 690	2900	— 985
36	— 238	270	— 461	950	— 702	3000	— 995
38	— 241	280	— 470	1000	— 713	3200	— 1015
40	— 245	290	— 478	1050	— 723	3400	— 1034
45	— 253	300	— 487	1100	— 733	3600	— 1053
50	— 261	320	— 501	1150	— 743	3800	— 1071
55	— 268	340	— 512	1200	— 753	4000	— 1088
60	— 275	360	— 522	1250	— 762	4200	— 1105
65	— 281	380	— 531	1300	— 771	4400	— 1121
70	— 287	400	— 540	1350	— 780	4600	— 1136
75	— 293	420	— 548	1400	— 789	4800	— 1152
80	— 298	440	— 556	1450	— 797	5000	— 1166
85	— 304	460	— 564	1500	— 805	7500	— 1326
90	— 309	480	— 571	1550	— 813	10000	— 1455

Table 3: Factor 'C' (Percentage Increase).

Percentage Increase	Factor C	Percentage Increase	Factor C	Percentage Increase	Factor C
0-50	— 0.70	120	— 0.86	280	— 1.03
55	— 0.72	130	— 0.88	300	— 1.04
60	— 0.73	140	— 0.90	325	— 1.05
65	— 0.75	150	— 0.91	350	— 1.06
70	— 0.76	160	— 0.92	375	— 1.07
75	— 0.77	170	— 0.94	400	— 1.08
80	— 0.78	180	— 0.95	425	— 1.09
85	— 0.79	190	— 0.96	450	— 1.10
90	— 0.81	200	— 0.97	500	— 1.11
95	— 0.82	220	— 0.99	550	— 1.12
100	— 0.83	240	— 1.00	650	— 1.13
110	— 0.85	260	— 1.02	700	— 1.14

Note: For new livestock farms or if the % increase is greater than 700 percent, use Factor C=1.14

Table 4: Siting Distances for Manure Storages (metres).

Column 1: Roofed or covered manure storage. Includes covered concrete and steel tanks, storages under fully slotted floors, in-barn solid manure packs, and roofed manure storages.

Column 2: Open solid manure pile on concrete slab including any associated runoff control and storage.

Column 3: Open concrete or steel tank, silo for liquid manure, milkhouse waste, or yard runoff storage.

Column 4: Open liquid manure earth-sided storage or earth-sided storage with concrete floor.

MANURE STORAGE BASIC DISTANCE 'S'

Minimum Base Distance 'F' for the Building (m)	Column 1	Column 2	Column 3	Column 4
	Covered Tank or Storage (m)	Open Solid Storage (m)	Open Liquid Tank, Silo, Milkhouse Waste and Yard Runoff Storage (m)	Earthen Manure Storage (m)
40	40	55	119	324
45	45	60	123	326
50	50	65	128	328
55	55	70	132	331
60	60	74	136	333
65	65	79	140	335
70	70	84	144	337
75	75	89	149	340
80	80	94	153	342
85	85	99	157	344
90	90	104	161	346
95	95	108	166	348
100	100	113	170	351
105	105	118	174	353
110	110	123	178	355
115	115	128	182	357
120	120	133	187	360
125	125	138	191	362
130	130	142	195	364
135	135	147	199	366
140	140	152	204	368
145	145	157	208	371
150	150	162	212	373
160	160	172	220	377
170	170	181	229	382
180	180	191	237	386
190	190	201	246	391
200	200	210	254	395
210	210	220	263	399
220	220	230	271	404
230	230	239	280	408
240	240	249	288	413
260	260	269	305	422
280	280	288	322	430
300	300	307	339	439
320	320	327	356	448
340	340	346	373	457
360	360	366	389	466
380	380	385	406	475
400	400	404	423	484
420	420	424	440	492
440	440	443	457	501
460	460	463	474	510
480	480	482	491	519
500	500	502	508	528
550	550	550	550	550

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Purpose</i>	<i>1</i>
1.2	<i>Objectives</i>	<i>1</i>
1.3	<i>Rationale</i>	<i>1</i>
2	Policy Explanation and Implementation	3
2.1	<i>Policy Explanation</i>	<i>3</i>
2.2	<i>Implementation Approaches</i>	<i>3</i>
	Appendix	
A	<i>Conservation Opportunities</i>	<i>8</i>
B	<i>Additional Sources of Information</i>	<i>11</i>

CONSERVATION POLICIES

Conservation of Energy, Water and Building Materials

Implementation Guideline for Policies E1 and E3

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local Regional Office of the Ministry of Environment and Energy.

1

INTRODUCTION

1.1

Purpose

This implementation guideline is intended to provide a general overview of approaches to the development of official plan policies which promote the sustainable use of water resources, energy resources and of the built environment, and, in doing so, maintain and promote the integrity and health of the environment.

This guideline provides a basis for planning that will be consistent with the Comprehensive Set of Policy Statements and will assist in the development of conservation initiatives.

1.2

Objectives

- To provide direction on integrating energy and water conservation strategies in the planning process.
- To provide ideas and guidance on planning and development practices to help promote energy and water conservation in planning and building activities.
- To promote the conservation, renovation and appropriate re-use of the built environment, and to encourage recycling of building materials, in order to conserve the materials and the energy resources embodied in planning and building activities.
- To encourage municipalities to consider redevelopment activities which include renovation and re-use of the built environment and recycling of building materials.

1.3

Rationale

Municipalities are encouraged to incorporate sustainable resource use and conservation strategies into their planning activities. By doing so, municipalities may benefit from maximizing the efficient

use of resources, deferring or eliminating the need for additional infrastructure, minimizing the potential for additional adverse impacts on the environment and on the economy, and maintaining or improving the integrity of the ecosystem.

Policies E1 and E3 emphasize the need to integrate land use decisions and sustainable use of resources; water, energy and of the built environment; through conservation, in order to maintain and improve the integrity of the environment and of the economy for both present and future generations.

Conservation is the wise management and use of renewable and non-renewable resources. This guideline will outline opportunities for achieving conservation and sustainable use of resources in Planning. By identifying the tools for conservation of water, energy and the built environment, this guideline can assist municipalities in moving towards a conserver society, in reducing consumption of resources, and in developing a framework for doing more with less.

Policies and practices can be incorporated into Planning activities which help to link land use activities with conservation objectives. It is optimal for official plans to contain specific policies promoting conservation of water and energy resources. However, many municipalities indirectly incorporate conservation through complementary policies. For example, official plans may contain policies which encourage compact, contiguous development in urban areas. These policies may direct development to areas with existing servicing, thereby maximizing the use of existing infrastructure and potentially reducing the need for costly additional infrastructure. More efficient use of infrastructure is consistent with conserving the energy and financial resources already expended in existing infrastructure. It may reduce the need to commit additional water resources to new development areas, and may reduce pressure for development on lands outside the urban area.

This guideline can be used to assist municipalities in identifying policies, practices and opportunities that may be readily incorporated into their planning activities which are consistent with achieving more sustainable use of resources; water, energy, and the built environment.

2

POLICY

Explanation and Implementation

Policy E1 states that:

"Municipalities should be planned to provide opportunities for energy and water conservation through means such as siting, design, landscaping, *infrastructure* and building design."

Policy E3 goes on to add that:

"The built environment and the energy resources embodied in the building materials and in the transport of those materials should be conserved, where feasible, through re-use, recycling, and renovation."

2.1

Policy Explanation

The aim of policy E1 is to link land use decisions with opportunities to maximize more efficient and environmentally sustainable use of water and energy resources through public policy and subdivision/site plan criteria.

Policy E3 emphasizes the need to consider how to maximize the use of the built environment, in order that where resources have been expended, both the materials and energy embodied in the transportation of those materials will not be wasted. Through re-use, recycling and renovation of the existing built environment, municipalities may promote a more adaptable environment and, ultimately, extend the life cycle of facilities, thereby conserving them.

E1 and E3 have been combined, as both focus on the opportunities for municipalities to foster more "sustainable" development through conservation of resources.

This guideline is to be considered in conjunction with other policies in the Comprehensive Set of Policy Statements. Goals A, B, D, and other policies of E are particularly relevant as they are consistent and complementary with achieving conservation.

Where development exists or will exist, there will be demands and impacts on water and energy resources and the built environment within the municipality. These relationships are often complex and interrelated. The policies on growth and development, transportation, and water and sewage servicing within a municipality will have direct implications for the use of water, energy, and on the demands placed on the built environment. For example, policies which direct development to existing built-up areas may result in more efficient usage of existing sewage, water and road facilities. The infilling of vacant lots and the conversion of existing buildings for re-use provide further opportunities for promoting conservation and efficiency.

In addition to interrelationships between energy, water and the built environment, land use decisions have long term and short term impacts on the availability of these resources. Conservation policies serve to integrate resource planning into land use decisions, which help to ensure that long term and short term resources implications are considered.

Conservation strategies also represent opportunities to manage existing resources more efficiently. Municipalities may benefit by diverting or eliminating the need for additional infrastructure while continuing to meet the needs of the community with existing services. Infrastructure such as water treatment and distribution systems, waste water treatment and collection systems, roads, public transit, and heating, are important components of growth, intensification and redevelopment within a municipality. More intensive development on existing infrastructure promotes concentrating growth in established communities and facilitates efficient use of the built environment, water and energy resources.

Municipalities are encouraged to consider the use of all resources in a comprehensive manner so that opportunities for strategically maximizing the use of resources in land use planning can be realized. For example, the opportunity for land use activities to promote district heating may be included in the various scenarios for development. Decisions may consider locating potential waste heat suppliers close to potential users, notwithstanding land use compatibility concerns. In assessing growth and development strategies, policies could encourage designing new buildings for future re-use, and renovating existing buildings for new or more intensive uses.

2.2

Implementation Approaches

In considering possible implementation approaches, this guideline recognizes that many municipalities have incorporated policies and planning tools into their planning activities which are consistent with or complementary to the sustainable use of energy and water, and conserving the built environment. Conservation and tools for achieving conservation exist at many different scales. Municipalities may, for example, undertake and prepare a "green" communities strategy; or a municipality may opt to implement a universal water metering program. Both of these actions are consistent with conservation objectives. Municipalities are encouraged to build upon these actions and, where possible, to develop a conservation strategy within the municipality. Successful strategies can include a framework for direct action, public awareness, education and community involvement.

The following activities are examples of policies and practices that municipalities may incorporate into their planning activities to achieve more sustainable resource use and conservation objectives. While this list is not exhaustive, it provides a range of alternative approaches for linking conservation objectives with decisions. Additional tools and techniques, such as low flow toilets and building orientation, are identified in Appendix A of this guideline.

- Municipalities can demonstrate a commitment to conservation and sustainable objectives in their official plans. This may include specific conservation objectives with numerical targets and indicators, allocation of resources for conservation, and a strategy for integrated resource planning.

Integrated resource planning is a systematic and comprehensive assessment which integrates economic decision-making with the environmental decision making process. This may included assessing the "full-cost" pricing or full-cost accounting of proposed developments, and the associated demand and supply alternatives. Such decision-making tools help to ensure sustainable community development whose financing structure, especially density characteristics, allow efficient provision of services that the community requires.

- Studies prepared on a watershed basis provide a broad understanding of the functions and status of the ecosystem and often include recommended actions for appropriate resource management within the watershed. Such plans can be valuable tools for identifying the relevant environmental considerations, particularly for water resources, that can be integrated into planning decisions of a municipality. Official plans should consider watershed documents and related recommendations which promote the conservation of water, energy and the built environment.

- Intensification policies may be designed to generate better use of existing and new energy, water and waste water infrastructure. Denser, more compact development and infilling are measures which result in shorter road lengths, more efficient use of existing water and sewage treatment facilities and pipelines, and allows for more cost effective public transit. Policies should direct growth based on the desire to maximize development in areas where infrastructure capacity is available. The location and sequence of water and sewage facilities not only impacts on the capital outlay for new development, but also impacts on future costs for maintenance and operation. More compact, contiguous urban forms can require smaller outlays for servicing, are more energy and water efficient, and ultimately require less land.
- Mixed and integrated land use policies also support more sustainable resource use. Encouraging complementary uses close together, where land use compatibility allows, may decrease travel distances or number of trips, thereby, reducing energy use. Mixed land uses may also provide opportunities for the sharing of resources, such as waste heat for district heating opportunities.
- The transportation policies of a municipality, including road layout, design and public transit provision, have impacts on energy and energy consumption. Because of the interrelationship with energy and transportation, policies B5, B6, and E2 are to be considered when developing a conservation strategy. Furthermore, policies which promote the use of transportation alternatives which are less damaging to the environment are also consistent with conservation initiatives.
- Municipalities should carefully document the assumptions and methods of calculating projections of future populations and employment levels in order that current development plans/plan amendments support sustainable future development, thus protecting the municipality from avoidable financial liabilities.
- Municipalities may create a body, such as an environmental advisory committee, with a mandate to provide comments and recommendations to council on conservation matters and to provide information to increase the public's awareness and input on conservation issues.
- Municipalities may wish to support and stimulate businesses and industries which become involved in the development and operation of innovative techniques which promote, achieve, or enhance conservation objectives. For example, lands may be allocated in the official plan for an industrial park specifically involved in "green" technologies.

- Municipalities may wish to adopt environmentally responsible subdivision/site planning criteria. Examples include preservation of natural topography, using alternative development standards, protection of surface and groundwater resources, and the use of Best Management Practices (BMPs). More information on BMPs is contained within implementation guidelines A1.1.
- Both supply side and demand side management alternatives for water, waste water and energy needs should be key features in the community development process and integrated into planning decisions.

Appendix

Conservation Opportunities

Water Conservation

A1 Land Use Conservation Opportunities

- Incorporate goals from existing watershed management studies into OPs
- Promote the efficient use of existing water/sewage infrastructure by encouraging denser contiguous development and mixed land uses
- Preserve woodlots, natural areas and natural features to help maintain the existing water quality and quantity
- Establish a body, such as an environment advisory committee, made up of community representatives who consider water-related issues and suggest actions or initiatives to council
- Adopt Environmentally Responsible Subdivision and Site Planning Criteria including:
 - maximize infiltration and reduce paved area
 - maximize the use of native shrubs and trees versus grassed areas
 - landscape to maximize water storage and infiltration (without flooding structures)
 - require erosion and sediment control on construction sites
 - use setbacks and buffers to minimize impacts
- Consider Alternative Development Standards (ADS) and Stormwater Management Practices, such as:
 - reduced lot grading
 - use of grass swales
 - roof leaders/foundation drains to surface ponding areas or soakaway pits
 - rain barrels & cisterns
 - drainage across lots

A2 Other Conservation Opportunities

- Support industries and businesses which are involved in the development of water efficient products and technology
- Foster partnerships with the community to promote water conservation:
 - workshops
 - information offices
 - community outreach programs
- Develop Municipal Water Efficiency Plans which may include the following:
 - identify and reduce the existing water losses from distribution pipes and ground water inflow / infiltration into sewers
 - implement universal metering for water consumption
 - implement universal metering for waste water produced
 - implement user pay principle on volume for both water use and waste water produced
 - move towards full cost pricing of services
 - prepare audits and undertake retrofit programs for residential, industrial, commercial and institutional clients, and municipal waste water facilities
 - promote the efficient use of water through a consumer education & awareness program
- Establish a sustainable pricing strategy:
 - include all water and waste water costs including an allowance for depreciation of facilities
 - phase out flat rate and declining price structures, at least for residential users

Energy Conservation

A1 Land Use Conservation Opportunities

- Promote energy efficiency and efficient use of existing infrastructure by encouraging denser contiguous development
- Encourage intensification in existing built up areas in order to conserve the energy & materials embodied in the existing built environment including:
 - promote the redevelopment of underutilized areas and buildings at greater densities
 - provide for the infilling of vacant lots
 - support the conversion of existing buildings to more intensive uses (e.g. conversion of large family homes into multi-family)
- Optimize land use relationships from an energy efficiency perspective:
 - encourage district heating opportunities, such as locating potential producers of waste heat in close proximity to potential users of waste heat
 - integrate mixed land uses, such as housing, shopping, parks and recreation, institutional, and employment uses which may minimize the need to travel long distances within an area
 - locate high density development in close proximity to public transit
- Establish a body, such as an advisory committee made up of community representatives, who consider energy related issues and suggest actions or initiatives to council
- Provide for public transit and encourage alternatives to the use of the automobile by providing accessible and safe pedestrian and bicycling routes
- Encourage energy efficient measures to be incorporated into the design and construction of building/facilities and in site design:
 - construct energy efficient buildings that take advantage of passive solar heating, topography and landscaping
 - preserve solar access by controlling heights, spacing and roof angles
 - provide for lot orientations that maximize solar access

- landscape for energy efficiency (e.g. coniferous trees on the north side of building for windbreaks, and deciduous trees on the south side for summer shade)
- encourage buildings to be designed for future reuse, where possible in order to enable the building to adapt to changing needs in the community: i.e. office to residential condominium

A2 Other Conservation Opportunities

- Encourage the use of local materials for construction and landscaping to avoid extra energy costs associated with transport of materials
- Encourage energy efficient devices to be incorporated into the design and construction of new and renovated buildings /facilities, such as:
 - insulation
 - double glazed windows
 - solar heating devices
- Foster partnerships with the community to promote energy conservation
 - workshops, information offices and community outreach programs

Built Environment

A1 Land Use Conservation Opportunities

- Promote compact urban form and mixed uses within a community including housing, institutions, recreation and parks, shopping and employment uses to promote the efficient use of the built environment
- Within the housing stock, promote a diversity of housing types closely integrated with each other, with the ability to adapt to changing needs of a household over time (i.e. single family to multi-family units)
- Reduce land and construction requirements using Alternative Development Standards (ADS). These may include:
 - reduced rights of ways
 - minimizing spaces devoted to specific functions
 - utilizing land to serve multiple functions such as joint utility trenches

Note: ADS should provide an acceptable level of service, at an acceptable cost and meet community expectations and needs. Changing conditions and values cause the operative definitions of “acceptable” to change over time. ADS are combinations of prescriptive and performance specifications.

Prescriptive standards specify how a facility or built form is to be built, such as:

- *construction facilities such as catchbasins and manholes*
- *standard location for facilities within a Right of Way (ROW)*
- *minimum sidewalk width*

Performance standards describe objectives a facility is to meet such as:

- *lot grading to minimize changes to the natural drainage patterns and to minimize land regrading*
- *road design in accordance with characteristics of the neighbourhood*
- *use of traffic calming techniques such as streetscape design and speed reduction*

Examples of Specific engineering ADS:

- *reduced curb radii*

- *reduced minimum road intersection angles*
- *reduce cul-de-sac turning radius*
- *locate watermain under a paved surface such as a road or sidewalk*
- *design storm sewer for 2 year storm*
- *rainleaders should be designed to drain to surface area and promote infiltration.*
- *use of roadside ditches to promote infiltration.*
- *establish performance based criteria for achieving a combination of infiltration and overland drainage*

A2 Other Conservation Opportunities

- Develop education and information programs on potential changes in level of service, where appropriate
- Encourage life-cycle costing of services: the total cost of the facility or service over the life of the service

Appendix

Additional Sources of Information

NOTE: Not all of the identified materials are available from the MOEE. Please contact the appropriate originating agency.

Energy Conservation Through Official Plans; A Guideline, Ontario Ministry of Municipal Affairs and Housing, April, 1982

Energy Handbook for Planners; Executive Summary, Ontario Ministry of Energy, July, 1983

Energy and Rural Land Use Planning in Ontario, Ministry of the Energy, July, 1993.

A Framework for Energy Efficiency and Conservation in Ontario, Ontario Ministry of Energy, 1990

Energy Efficiency in Municipalities: The Law, Ontario Ministry of Energy, June, 1980.

Strategy for Reviewing Official Plans, Ontario Ministry of Energy, undated.

Planning Land to Conserve Energy, Land Use in Canada Series, Number 25, Environment Canada, January, 1992.

Perspectives on Access to Sunlight, Ontario Ministry of Energy, May, 1978.

Transit Supportive Land Use Planning Guidelines, Ministry of Transportation and Ministry of Municipal Affairs, Ontario, April, 1992.

National Action Plan to Encourage Municipal Water Use Efficiency, Canadian Council of Ministers of the Environment, May 31, 1994.

Encouraging Municipal Water Use Efficiency, Companion Document to the National Action Plan to Encourage Municipal Water Use Efficiency, Canadian Council of Ministers of the Environment, April, 1994.

Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, Ministry of Environment and Energy, August, 1993.

Fill Quality Guidelines for Lakefilling in Ontario, Application of Sediment and Water Quality Guidelines to Lakefilling, June, 1992.

Water Management on a Watershed Basis: Implementing an Ecosystem Approach, Ministry of Environment and Energy and Ministry of Natural Resources, June, 1993.

Subwatershed Planning, Ministry of Environment and Energy and Ministry of Natural Resources, June, 1993.

Integrating Water Management Objectives into Municipal Planning Documents, Ministry of Environment and Energy and Ministry of Natural Resources, June, 1993.

Stormwater Management Practices Planning and Design Manual, MOEE, June, 1994. Covers “best available” design standards for stormwater facilities.

Making Choices - Alternative Development Standards Guideline, 1994, from Ministry of Housing and Ministry of Municipal Affairs.

Urban Drainage Design Guidelines, 1987, prepared by MOE, MNR, MMA, MTO, ACAO, MEA, and UDI.

Erosion and Sediment Control on Construction Sites, 1987, prepared by MOE, MNR, ACAO, MEA, and UDI.

CONSERVATION POLICIES

Efficient Transportation Modes

Implementation Guideline for Policy E2

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when

decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
2	Policy	1
2.1	<i>Policy Explanation</i>	<i>2</i>
2.1.1	<i>Pedestrians</i>	<i>2</i>
2.1.2	<i>Cyclists</i>	<i>3</i>
2.1.3	<i>Layouts of Roads and Traffic Calming</i>	<i>4</i>
2.1.4	<i>Transit</i>	<i>4</i>
2.2	<i>Possible Implementation Approaches</i>	<i>5</i>
2.2.1	<i>Pedestrians</i>	<i>5</i>
2.2.2	<i>Bicycles</i>	<i>6</i>
2.2.3	<i>Transit</i>	<i>8</i>
 Appendix		
A	<i>Glossary</i>	<i>9</i>

1

INTRODUCTION

This guideline is intended to assist municipalities, developers and others in interpreting policy E2 of the Comprehensive Set of Policy Statements, and to help them make decisions that are consistent with it.

The objective of this guideline is to promote forms of development where walking, cycling, and transit use are encouraged. This planned form of development should promote a transit and pedestrian supportive layout of roads, and the provision of pedestrian and cycling amenities. This will involve the physical design of roadways and public spaces.

2

POLICY

Explanation and Implementation Approaches

Policy E2 states that:

"Municipalities should be planned to promote the most efficient modes of transportation and to reduce the need for the private automobile by giving priority to energy-efficient, low-polluting travel, such as walking, bicycling, and public transit."

2.1

Policy Explanation

The primary purpose of this policy is the encouragement of energy-efficient, low-polluting travel. The focus is to increase the use of walking, bicycling and public transit for all types of trips.

Planning to promote energy efficient modes of transportation such as walking, cycling and transit rely on many of the same basic land use patterns for their effective and efficient use. These land use patterns support mixed land uses in compact areas, with higher residential and employment populations.

2.1.1

Pedestrians

In looking at the history of development over the last few decades, the emphasis and concern for the pedestrian has declined in favour of the automobile. In promoting energy-efficient, low-polluting modes of transportation, walking can be a primary form of transportation in most areas of the province. Walking as a mode of transportation is inexpensive, environmentally friendly and a fundamental component of public transportation systems. Additionally, pedestrian travel provides an opportunity to exercise and offers exposure to the neighbourhood and surrounding communities.

In areas developed prior to the 1950s, where designing for the pedestrian was paramount, residential dwellings and commercial establishments were closer together and near the street, with windows and doors facing onto wide sidewalks. Streets were representative of a grid pattern, with short blocks and a variety of land uses. Therefore, it was possible to walk to stores, schools, recreation areas, and to bus stops and transit stations. Traffic lights and stop signs were closely spaced, providing numerous protected crossing points.

By contrast, areas developed since the 1950s are designed for automobile access and provide a poor pedestrian environment. Many buildings are scattered and set far back from the street, often surrounded by enormous parking lots. Residential areas have long, winding streets with no sidewalks. Wide and busy arterial roads are often designed solely to facilitate the flow of traffic with protected crossings too far apart or in some cases not provided at all. Signal lights may be inappropriately timed for seniors, mothers with infants, or disabled persons.

In attempting to create a safer pedestrian environment, the principle of mixed use development may prove beneficial. Developing a mix of retail, residential, restaurant and entertainment uses along transit routes will encourage pedestrian activity throughout the day and evening.

Pedestrian use of transit can also be encouraged by recognizing the importance of 400m as an appropriate walking distance for most people. In addition, the presence of more people on the streets and in local establishments will provide a form of informal surveillance from surrounding buildings that may increase the level of safety.

2.1.2

Cyclists

Cycling is another energy-efficient and non-polluting form of transportation. In addition to being comparatively inexpensive, it provides the user with a great deal of range, making cycling feasible for utilitarian as well as recreational trips.

Before the shift towards automobiles, bicycles were regarded as a significant mode of transportation. We are now seeing a resurgence of this in both rural and urban areas, as an enjoyable form of recreation and tourism, and as a convenient means of transportation for short trips. Cycling can also provide exercise, fresh air, and an intimate exposure to the neighbourhood and community.

Cycling could be encouraged in all areas of the province by conducting a comprehensive bicycle plan which would identify a bicycle network and look at related aspects concerning safety, education, encouragement of cycling, and enforcement of safety rules.

A bicycle network may consist of three components: routes, lanes and paths. Bicycle routes could simply be a series of streets designated on a map and marked with signs, allowing cyclists to avoid busy and dangerous arterials. A bike lane could be a portion of a city street that has been reserved for bicycle use. It is typically designated by striping, signing and pavement markings for the preferential or exclusive use of cyclists. A bike path is an off-street route physically separated from motorized traffic especially for the use of bicycles, although sometimes shared with pedestrians, roller bladers and other path users.

If bicycles are to be widely used, it might be important to integrate this mode into the overall transportation system and provide ancillary support facilities for cycling. This could be accomplished in various ways. For example: adequate bicycle parking could be provided especially at major destinations, including office buildings and rapid transit stations; and bicycles may be permitted on other forms of transit without restrictions. Many current transit vehicles do not accommodate bicycles, or do so only outside peak travel times. Access and space for bicycles may be provided on buses, trains, and streetcars. This could be extremely effective in extending the catchment area and increasing the utilization of the transit system, especially in scattered and low density areas.

Other incentives for people to ride their bikes to work include installing bike lockers which could offer protection for valuables from theft, and the provision of showers and changing facilities in the work place.

More information on cycling may be found in the Ministry of Transport *Interim Bikeway Guideline, Draft, 1993*.

2.1.3

Layout of Roads and Traffic Calming

A pedestrian and cycling supportive layout of roads is based on the broad principle of minimum walking and cycling distances attainable by promoting mixed land use, higher density, and compact development, especially along activity corridors and transit nodes. At the subdivision level, streets may be designed to minimize walking distances. Generally, pedestrians are unlikely to walk very far to a transit stop, and internal streets can therefore be designed to provide direct walking routes to transit stops. In addition, transit routes may be spaced at 1000m maximum intervals on average, and bus stops may be spaced at 200m to 250m intervals to meet walking distance criteria. Roadways suitable for bicycle networks may be incorporated into the road network itself.

At the streetscape level, providing pedestrian, cyclist, and transit user amenities would be appropriate especially along arterials and transit routes, with careful attention given to aesthetic design. This includes wide sidewalks, bus shelters and waiting areas, bicycle parking facilities, trees and landscaping, and canopies or arcades along buildings.

Also supportive to pedestrian and cycling road layout is the principle of traffic calming. Traffic calming involves the basic theme of slowing traffic, particularly on local streets, by design rather than by regulation. Drivers are made more aware of their driving environment by narrowing the street and bringing fixed objects like houses and related activities closer to the street. This tightening increases awareness about what is happening adjacent to the driving lane, and causes drivers to want to slow down and be very prepared to stop. The result is a safer environment for pedestrians and cyclists.

Drivers entering should be alerted to the design features of a neighbourhood or area; they should be prevalent at the development's entrance. Such features could include buildings close to the road, narrow pavements, parked cars and a clearly defined pedestrian environment. Signs may also be posted but, by themselves, should not be relied upon.

For more information in traffic calming and related principles, please refer to *Making Choices: Alternative Development Standards*, pg. 95.

2.1.4

Transit

In planning for transit, it is important to note that transit users are pedestrians at least at one end of the trip, and an environment that benefits one energy efficient mode will most likely benefit the others. The promotion of transit as an efficient mode of transportation requires placing emphasis

on the needs of pedestrians and cyclists. What is vital to support transit is the existence of a pedestrian network which provides safe and convenient access from all dwellings and facilities to the nearest bus stop and the surrounding environment.

If municipalities are to regard transit use as energy efficient and low polluting, it may be necessary to assess the viability of such a system. Contrary to human-powered pedestrian and cycling travel, transit is a form of fossil-fuel based transportation. In communities where transit may be under utilized, it is important to assess the need of services and provide an appropriate level of transit.

Refer also to the implementation guideline for policy B5 for more information on supporting the use of public transit.

2.2

Possible Implementation Approaches

2.2.1

Pedestrians

- Municipalities are encouraged to accommodate the needs of pedestrians along collector and arterial roads. This may be accomplished by:
 - Increasing the number of protected crossing points and signalized intersections along arterial roads, particularly at transit stops;
 - Designing intersections to accommodate pedestrians as well as vehicles;
 - Exploring alternatives to reverse lotting especially in urban or built up areas (developing street-oriented uses along arterial and collectors is pedestrian supportive);
 - Providing adequate road allowance widths to permit sufficiently wide sidewalks that accommodate street furniture, bus shelters, and other pedestrian amenities (especially along existing or future transit routes);
 - Minimizing barriers hindering pedestrian access;
 - Providing pedestrian safety features, such as lighting and the quality of surface materials, along walkways offering pedestrian access into buildings;
 - Implementing traffic calming measures in neighbourhoods, where appropriate;
 - Locating buildings as close as possible to the streetline, to create a more protected environment for pedestrians and facilitate pedestrian access to and from buildings.
- Municipalities are encouraged to provide amenities to improve the micro-climate along streets. Amenities which help to protect pedestrians from wind, snow and excessive heat or sunlight

will add to pedestrian comfort:

- ▶ Where appropriate, canopies or arcades can be provided along the street frontage of buildings (see Figure below);
- ▶ Shade trees may be planted to provide additional climate protection, and contribute to an attractive pedestrian environment;
- ▶ Careful landscape and building design can improve wind patterns.



*Provide canopies or arcades along buildings.
Adapted from: Guide to Land Use and Public Transportation
Snohomish County Transportation Authority.*

- Municipalities are encouraged to consider the following measures on local streets:
 - ▶ Narrowing the street width;
 - ▶ Landscaping with trees close to the street;
 - ▶ Reducing building setback;
 - ▶ Reducing intersection spacing;
 - ▶ Allowing on-street parking.

In planning for pedestrians and accessibility for all, including the disabled, please also see the implementation guideline for policy B2.

2.2.2

Bicycles

- Municipalities are encouraged to create comprehensive bicycle plans which establish a cycling network that incorporates, where feasible, bicycle routes, lanes, and paths, and to consider related elements dealing with safety, education, encouragement of cycling and enforcement of related safety rules.
- Where feasible, consider using infrastructure right-of-ways (e.g., abandoned railway lines and hydro corridors) as alternative cycling paths or part of a larger cycling network.

- Municipalities may look at the possibility of making roadways bicycle friendly through road improvement and maintenance projects, which may include the following considerations:
 - Parallel drainage grates may be replaced with bicycle-safe and hydraulically efficient inlet grates.
 - Provide paved shoulders along rural roads and provincial highways, where appropriate.
 - When designing new roadways, curb inlets may be used wherever possible to eliminate exposure of cyclists to grate inlets. It is important that grates and utility covers be adjusted to be flush with the bikeway surface, including after a roadway is resurfaced.
 - Design curb cuts for bicycle access to bike paths, sidewalks and driveways so the bottom of the curb cut matches the gutter grade without an elevated lip.
 - Evaluate the need to facilitate bicycle travel over major obstacles (freeways, waterways, ravines) using overpasses, tunnels and bridges.
 - Consider the provision of wind protection and solar exposure measures along bicycle routes which may promote bicycle use. These could include:
 - Avoiding high bicycle bridges and long slippery bridges or tunnel ramps;
 - Locating bicycle routes to the orientation that receives maximum sunlight;
 - Providing bicycle routes to the necessary daily destination as short as possible, so that the duration of exposure to severe weather is minimized;
 - Planting trees and thickets of shrubbery to create an aesthetically pleasing windbreak.
- Municipalities are encouraged to provide bicycle parking, bike lockers, and changing facilities in commercial, transit, and large scale developments.
- Where feasible, municipalities may design bicycle networks to provide direct access to major nodes, including transit routes, transit stops and rapid transit stations.

2.2.3

Transit

- Transit operators may consider the option of carry-on capacity for cyclists.
- Encourage municipalities to locate a significant majority of residences, jobs and other activities and uses within 400m walking distance of a transit stop. Examples of possible wording include:
 - 90% of residences, jobs and other activities/uses should be located within 400m (actual walking distance) of a transit stop; and/or
 - 65% of residences, jobs and other activities/uses should be located within 200m (actual walking distance) of a transit stop;
 - Alternatively, these criteria could be addressed in the municipality's subdivision guidelines.

(see page 76 of *Transit Supportive Land Use Planning Guidelines*)

- Encourage municipalities to minimize walking distances and to maximize convenience for pedestrians walking between transit stops and building entrances.
- Local road patterns should provide direct pedestrian access to transit stops and transfer nodes.
- Employers could provide employee transit subsidies (e.g., provide free or subsidized transit passes).

Refer to the implementation guideline for policy B5 for more information on transit.

Appendix

Glossary

This glossary has been added to the implementation guidelines for policies B5, B6 and E2. The following terms are not included as part of the policy statements, and definitions are therefore included here. The definitions have been taken from the *Transit Supportive Land Use Planning Guidelines*:

Activity Corridors

Areas of street-oriented uses which incorporate a mix of retail, employment and residential uses, developed at medium densities, located along arterial or collector roads serving as major transit routes. Such corridors may form the boundaries of residential subdivisions or neighbourhoods, but should act as a linear focus for activities and uses within the community.

Mixed-Use Development:

Areas characterized by a wide variety of shopping, employment, entertainment, light industrial and residential uses. mixed-use development may occur at the level of individual buildings or complexes, or at a larger scale within activity nodes or corridors.

Pedestrian:

Refers to all people on foot or moving at walking speed, included those who use mobility aids (wheelchairs, scooters etc.), persons with strollers and buggies, and frail elderly persons.

Reverse Lotting:

Lots located adjacent to an arterial or collector road which front onto an internal street, while the rear yard faces onto the arterial or collector road. Landscaping and privacy fences are usually located adjacent to the arterial or collector road, and access onto the arterial or collector is strictly limited.

Roads, Collector:

Traffic and transit routes designed to carry lower volumes of traffic than arterial roads, and providing continuous access across neighbourhoods. Collector roads should be bordered by higher density uses than surrounding low density residential areas, to support their role as transit routes.

Transit:

Includes public buses, streetcars, subways, and commuter rail lines. In this document transit also encompasses public trains; ferries; buses (including intercity buses) operated by private companies and available to the public; Board of Education transportation systems; private company/institutional vans made available to employees, customers, or residents; taxis; and related pedestrian activities, as well as specialized transit services.

CONSERVATION POLICIES

Waste Management Systems

Implementation Guideline for **Policy E4**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local Regional Office of the Ministry of Environment and Energy.

TABLE OF CONTENTS

1	Introduction	1
	1.1 <i>Purpose</i>	<i>1</i>
	1.2 <i>Objectives of the Policy</i>	<i>1</i>
	1.3 <i>Rationale</i>	<i>1</i>
2	Policy Explanation and Implementation	2
	2.1 <i>Policy Explanation</i>	<i>2</i>
	2.2 <i>Possible Implementation Approaches</i>	<i>3</i>
	Appendix	
	A <i>Further Sources of Information</i>	<i>5</i>

1

INTRODUCTION

1.1

Purpose

This implementation guideline is intended to assist municipalities in adopting land use planning policies which are consistent with, and facilitate, responsible waste management planning. The principles outlined are consistent with the Comprehensive Set of Policy Statements and will assist municipalities in meeting the obligations for waste management planning under environmental legislation. This guideline will provide municipalities with guidance on integrating good waste management planning practices into the preparation of official plans.

This guideline is intended to complement the legislative requirements for waste management planning, and **it is not to be considered as an alternative to waste management planning under the EA Act, or other legislation**. Rather, the guideline provides municipalities with guidance on the principles that can be incorporated into the official plan which promote long term waste management strategies that are economically, socially, and environmentally sustainable.

1.2

Objectives of the Policy

- To encourage municipalities to consider both the long term and short term waste management needs in the decision making process in land use planning activities.
- To promote sustainable waste management practices and to adopt the 3Rs principles: reduction, re-use and recycling, in land use planning.

1.3

Rationale

Land use planning and development decisions will impact on the existing waste management system of a municipality. Therefore, in the preparation of the official plan, a municipality should

be assessing the ability of the existing waste management system to manage the projected waste quantities and composition to be generated over the planning period, and identifying any deficiencies in the existing waste management system.

A waste management system includes all facilities, buildings and equipment used for the collection, processing and disposal of wastes. A complete waste management system consists of both disposal and diversion components.

Good waste management planning promotes efficient use of resources by encouraging those responsible for waste management to adopt "sustainable waste management practices". This involves reducing society's reliance on landfills as the main means of managing wastes, capitalizing on the economic benefits which can be gained by extending the life of existing infrastructure, securing environmentally sound waste management facilities, and promoting the 3Rs principles as key features of waste management.

2

POLICY

Explanation and Implementation

2.1

Policy Explanation

Policy E4 states that:

"Provisions should be made for *waste management systems* to accommodate *development*₁ and to complement reduction, re-use and recycling objectives."

Municipalities are required to meet certain legislative requirements when conducting waste management planning and constructing new facilities, including requirements under the *Environmental Assessment Act*, the *Environmental Protection Act*, and the MOEE 3Rs Regulations. Pursuant to the *Environmental Assessment Act*, municipalities are required to undertake an environmental assessment to identify new landfill capacity and, in doing so, meet

the requirements of the Act and its associated regulations, policies, and guidelines. Similarly, municipalities must comply with the Ministry of the Environment and Energy's 3R Regulations, under the *Environmental Protection Act*, which specify requirements for mandatory recycling and composting programs.

In addition to the legislative requirements, official plan policies may support sustainable waste management planning, and foster re-use, recycling and reduction within the municipality as an alternative to landfill.

All remaining goals of the Comprehensive Set of Policy Statements are to be considered in planning for waste and waste diversion activities. Goals A and B are particularly relevant.

2.2

Possible Implementation Approaches

Municipalities are encouraged to consider the following principles and objectives in developing land use planning policies which are consistent with good waste management planning.

- Municipalities may include a statement in their official plan demonstrating their commitment to providing sustainable waste management within their municipality.
- When planning for growth, development and redevelopment, municipalities should consider the capabilities of the existing waste management system.

Municipalities may use the official plan process as an initial opportunity to discuss the current waste management system and any potential deficiencies in the adequacy of the existing system to meet the projected waste quantities and composition.

- Municipalities may use the official plan to document their commitment to reducing reliance on landfill and to promoting the 3Rs principles; waste reduction, re-use and recycling; as key methods of waste management. Municipalities should consider identifying waste reduction targets and numerical indicators to allow measurement of progress.

The Province of Ontario has set a provincial target of diverting a minimum of 50% of the waste stream from disposal by the year 2000. Municipalities are encouraged to meet or exceed the provincial target for wastes for which they have responsibility. In addition, municipalities are encouraged to assess their progress in achieving waste diversion targets.

- Waste materials can be viewed as potential resources, which can be used to create new business opportunities, and provide alternatives to landfilling waste materials. Policies of the official plan may encourage the establishment of businesses and industries which are involved in the development and operation of innovative methods of waste diversion. For example, lands may be allocated in the official plan for an industrial park dedicated for industries involved in 3Rs technology.
- Municipalities may allocate lands for purposes of recycling, and leaf and yard waste composting facilities within the official plan.
- Policies of the municipality should provide for public consultation and educational opportunities. It is important that the municipality and the public exchange information on existing and future waste management activities. Public consultation should be community-based, multi-sectoral, and action-oriented.

Appendix

Further Sources of Information

Waste Management Planning, **Sectoral Environmental Assessment Proposal for Waste Management Planning, Volume 1**, Ontario Ministry of Environment and Energy, dated June, 1994.

Waste Management Planning, Volume 1, **Sectoral Environmental Assessment Proposal for Waste Management Planning - Technical Appendices**, Ontario Ministry of Environment and Energy, dated June, 1994.

Waste Management Planning, Volume 2: **Administration and Funding Guideline**, Ontario Ministry of Environment and Energy.

Waste Management Planning, **User's References Guide to Statutes, Regulations, Policies, Guidelines, and Procedures**, Volume 3, Ontario Ministry of Environment and Energy, dated June, 1994.

O. Reg. 101/94 Recycling and Composting of Municipal Waste, *Environmental Protection Act* (EPA)

O. Reg. 102/94 Waste Audits and Waste Reduction Work Plans, EPA

O. Reg. 103/94 Industrial, Commercial and Institutional Source Separation Programs, EPA

O. Reg. 104/94 Packaging Audits and Packaging Reduction Work Plans, EPA

O. Reg. 105/94 Complementary Amendments to Regulation 347: General Waste Management, EPA

A Guide to Waste Audits and Reduction Workplans for Construction and Demolition Projects, Ontario Ministry of Environment and Energy, PIBS-2481e

A Guide to Approvals for Recycling Sites, Leaf and Yard Waste Composting Sites and Compost Use, Ontario Ministry of Environment and Energy, PIBS-2477e

A Guide to Source Separation of Recyclable Materials and Leaf and Yard Waste Systems for Municipalities, Ontario Ministry of Environment and Energy, PIBS-2476e

A Guide to Packaging Audits and Reduction Workplans, Ontario Ministry of Environment and Energy, PIBS-2482e

A Guide to Waste Audits and Reduction Workplans for Industrial, Commercial and Institutional Sectors, Ontario Ministry of Environment and Energy, PIBS-2480e

Ontario's Waste Reduction Action Plan: Backgrounder (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-1600b

The Case Against Municipal Solid Waste Incineration (Booklet) Ontario Ministry of Environment and Energy, PIBS-2135b

Amendment to Regulation 347: Municipal Solid Waste Incineration in Ontario (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-2134b

Initiatives Paper #1: **Regulatory Measures to Achieve Ontario's Waste Reduction Targets** (Booklet) Ontario Ministry of Environment and Energy, PIBS-1708e

Initiatives Paper #3: **Municipal Waste Management Powers** (Booklet) Ontario Ministry of Environment and Energy, PIBS-1882e02

Initiatives Paper #4: **Measuring Progress Towards Ontario's Waste Reduction Targets** (Booklet) Ontario Ministry of Environment and Energy, PIBS-1954e

Quick Facts: **The Ban on New Garbage Incinerators in Ontario** (Pamphlet) Ontario Ministry of Environment and Energy, PIBS-1824b

Solid Waste Management: A Glossary of Terms (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-1828b

The Landfilling of Garbage (Information Sheet) Ontario Ministry of Environment and Energy, PIBS -1826b

Environmental Approvals for Waste Disposal Sites (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-1825b

Application of Sewage Sludge to Agricultural Land (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-608b

Southern Ontario Scrap Tire Inventory Studies (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-678b

Municipal Waste Management Funding Programs (Information Sheet) Ontario Ministry of Environment and Energy, PIBS-1716b

Student Action for Recycling (STAR), (Presentation Kit) Ontario Ministry of Environment and Energy, PIBS-829b

MINERAL AGGREGATE, MINERAL AND PETROLEUM RESOURCE POLICIES

Mineral Resources

Implementation Guideline for Policies F2.1, 2.2, 2.3, & 2.4

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the

policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

A technical guideline entitled "Procedural Guideline for Qualitative Mineral Potential Evaluations" is available from the Ministry of Northern Development and Mines. It supplements the information provided in this guideline.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Separate Mining Industry Sectors</i>	<i>1</i>
	<i>Separate Implementation Guidelines</i>	<i>1</i>
1.2	<i>Ministry Mandate for Mineral Resources</i>	<i>2</i>
	<i>Relationship of the Planning Act to the Mining Act.....</i>	<i>2</i>
1.3	<i>The Mining Industry in Ontario</i>	<i>4</i>
	<i>Special Characteristics of Mineral Resources and Land Use.....</i>	<i>5</i>
1.4	<i>Goal Rationale.....</i>	<i>7</i>
2	Policy Explanation and Implementation	8
Policy F2.1	<i>Identification and Protection for Resource Use.....</i>	<i>8</i>
	<i>Policy Intent</i>	<i>8</i>
	<i>Resource Use</i>	<i>8</i>
	<i>Resource Identification</i>	<i>9</i>
	<i>Incompatible Uses</i>	<i>10</i>
	<i>Possible Implementation Approaches.....</i>	<i>11</i>
	<i>Mining Operations.....</i>	<i>11</i>
	<i>Deposits and Areas of Mineral Potential.....</i>	<i>11</i>
	<i>Other Considerations</i>	<i>12</i>
Policy F2.2:	<i>Development in Areas of Deposits and</i>	
	<i>Potential Mineral Resources</i>	<i>13</i>
	<i>Policy Intent</i>	<i>14</i>
	<i>Access to Resources</i>	<i>14</i>
	<i>Feasibility of Resource Use, Priority over</i>	
	<i>Resource Use and the Greater Public Interest</i>	<i>15</i>
	<i>Possible Implementation Approaches.....</i>	<i>16</i>

Implementation Guideline for Policies F2.1 to F2.4 - Mineral Resources

<i>Policy F2.3</i>	<i>Development Adjacent to Deposits and Operations</i>	<i>17</i>
	<i>Policy Intent</i>	<i>17</i>
	<i>Possible Implementation Approaches.....</i>	<i>18</i>
<i>Policy F2.4</i>	<i>Rehabilitation</i>	<i>19</i>
	<i>Policy Intent</i>	<i>19</i>
	<i>Possible Implementation Approaches.....</i>	<i>20</i>
Appendix		21
<i>A</i>	<i>Glossary</i>	<i>21</i>
<i>B</i>	<i>Generalized Classification of Economic Minerals</i>	<i>24</i>
<i>C</i>	<i>The Mining Sequence.....</i>	<i>26</i>
<i>D</i>	<i>Land Use by Mining Exploration to Production</i>	<i>28</i>
<i>E</i>	<i>Review of Closure Plan for New Mining Operations, and Summary of Mining Lands Rehabilitation Regulations</i>	<i>30</i>
<i>F</i>	<i>Ministry of Northern Development and Mines Offices.....</i>	<i>35</i>
<i>G</i>	<i>Mineral Exploration and Mining Sector Organizations</i>	<i>37</i>

1

INTRODUCTION

1.1

Separate Mining Industry Sectors

The mining industry is generally considered in terms of sectors, characterised by the commodities produced. The major sector, in terms of both value of production and employment, is metal mining, in which metals such as nickel, gold, copper, and zinc are produced.

Mineral aggregates (crushed stone, sand and gravel) and other structural materials (building stone) are second in terms of value and employment, followed by industrial or "nonmetallic" minerals such as salt and gypsum, and lastly by fuel minerals such as petroleum and natural gas.

Appendix B, Generalized Classification of Economic Minerals, provides an illustration of the mineral sectors or groupings.

Because of differing technical factors and separate governing legislation and regulations affecting the individual mineral sectors, it is necessary to address these sectors in separate implementation guidelines.

Separate Implementation Guidelines

This implementation guideline addresses policies F2.1 to F2.4 of the Comprehensive Set of Policy Statements (mineral and petroleum resources), as they relate to metallic and industrial mineral resources. It explains the importance of mineral resources and the intent of the provincial planning policy statement that has been developed to protect the resources for their use. Another guideline addresses the petroleum resources component of policies F2.1 to F2.4.

The suggested approaches contained in this implementation guideline are not intended to be all inclusive. Decision makers and others are encouraged to discuss other possible implementation options with the Ministry of Northern Development and Mines (MNDM).

In developing new official plans or undertaking official plan reviews, early contact or preconsultation with MNDM should occur at the onset of any planning program. It is anticipated that early, "front-end" contact, may facilitate the development of official plan policies that address and satisfy the specific needs of the community for which the plan was prepared, while being consistent with provincial policy as it relates to the community.

MNDM's input to the planning process is coordinated and provided from the local Resident Geologist for the area. A listing of these offices and their geographic coverage can be found in Appendix F, Ministry of Northern Development and Mines Offices.

1.2

Ministry Mandate for Mineral Resources

The Ministry of Northern Development and Mines (MNDM), as the name implies, has two major mandates: firstly, Northern Development; and, secondly, Mines. The provincial planning policy interests, as expressed in policies under goal F, relate to the Mines mandate, which applies province-wide, while the Northern Development mandate of the ministry applies to community economic development in Northern Ontario.

MNDM's planning interests, as they relate to community economic development in Northern Ontario, are addressed under goal B of the policies, dealing with Economic, Community Development, and Infrastructure.

MNDM's mandate and responsibility for mineral resources in Ontario includes metallic and nonmetallic or industrial minerals and mined salt, excluding salt solution mining. Salt solution mining is addressed in the implementation guideline for petroleum resources.

The mission of the Ministry of Northern Development and Mines (MNDM) with respect to mineral resources is to generate new wealth and benefits for residents of Ontario by stimulating environmentally and economically sustainable use of the province's geology and mineral resources.

The *Mining Act*, as amended in 1991, is the legislative tool which governs the disposition of mining land tenure, exploration for minerals, mine development and the rehabilitation of mine sites. The importance of these minerals, and their wise use, to the people of Ontario is reflected in the purpose section of the *Mining Act*, which states:

"The purpose of this Act is to encourage prospecting, staking and exploration for the development of mineral resources and to minimize adverse effects on the environment through rehabilitation of mining lands in Ontario".

Relationship of the *Planning Act* to the *Mining Act*

The *Planning Act* deals with land use planning in Ontario, including, among other matters, subdivision control.

The *Mining Act* deals with the administration of "all public lands for mining purposes and for the purposes of the mineral industry and all regulations made with respect to mines or minerals or mining or mining land or mining rights or the mineral industry".

In common to both statutes is that they affect land or certain rights on, in or under land. The *Mining Act* does not administer or control decision making for land use on private land as is the case with the *Planning Act*. On the other hand, since the *Mining Act* deals with mining land tenure in Ontario, there is potential for confusion as to whether, when, where or how each Act may apply, especially with determining applicable approvals for the use of land and the erection of buildings or structures on land associated with mining.

An example of this is through use of the term "development" in land use planning and in mining. The Comprehensive Set of Policy Statements contain a number of definitions for "development" associated with decision making that affects provincial interests in land use planning. "Development₃", as it affects policy A3.3 for Past Mining Activities and policies under goal F2 for Mineral Resources, generally refers to applications under the *Planning Act* for the construction, erection or placing of a building, or structure of any kind; an addition or alteration; and, related activities such as site grading and the placing or dumping of fill. The full definition is contained in Appendix A. The application of the term "development₃" must also be read in the context of the policy wording contained in policy A3.3 and goal F2.

For mining purposes, "development" represents a stage in the "mining sequence" that starts with a decision to go into mine production after a deposit has been discovered and evaluated. This may be underground mine production or mine production by surface mining methods. Numerous approvals, in addition to those under the *Mining Act*, are necessary in this process. Approvals under the *Planning Act* may be one of several, depending on the mining method and the site-specific circumstances.

"Mining lands" under the *Mining Act* include a hierarchy of tenure ranging from: staked mining claims, that provide a privilege to enter onto public land held by the Crown in order to prospect and explore for minerals; to mining leases of mining and/or surface rights that are renewable by the Crown for a specific period of time, usually 21 years to be used for no other purpose except mining; to mining patents, the most secure form of tenure that is granted in fee simple, and otherwise considered as private land.

Since the *Planning Act* applies to private land in Ontario, mining patents that contain surface rights are therefore subject to subdivision control under the Act. For example, the holder of a mining patent would require a planning approval to subdivide or sever the surface rights into smaller parcels.

The *Planning Act* specifically excludes from subdivision control, leases granted or disposed of by the Crown for 21 years or more. The horizontal severance of mining rights from surface rights is also excluded where mining patents or other forms of private land tenure are involved. Furthermore, under recent amendments, the vertical severance of mining rights is also excluded from subdivision control where no surface rights are involved.

On the other hand, the *Planning Act* deems a "pit or quarry" to be a use of land for purposes of the Act. A "pit or quarry" is a "surface" mining activity for mining purposes. Underground

mining, another mining method, is not a use of land for purposes of the *Planning Act*. Although, where underground mining requires the construction of buildings or structures on surface land that is private land, planning approvals may be required, particularly if the land is not designated to permit the proposed use.

The *Ontario Building Code Act* offers some further guidance. This statute governs the issuance of building permits. The definition of "building" in the Act states that "building ... does not include a structure used directly in the extraction of ore from a mine." An example of this might be a mine headframe. On the other hand, it would logically follow that, for example, administrative offices or mineral ore processing facilities may not be included in such an exemption.

In conclusion, where it is determined that an approval under the *Planning Act*, is required, the Comprehensive Set of Policy Statements apply. Planning decisions must be consistent with the policy statements. All policies should be read in their entirety and all applicable policies applied to each situation. This will include policy A3.3, where there may be hazards associated with areas of past mining activity or policies under goal F2 where the protection of mineral resource interests may be affected.

1.3

The Mining Industry in Ontario

Mining is a major industry in Ontario.

Ontario is a significant producer of metals on both the national and international scales. The province is Canada's largest producer of metals, accounting for 35 per cent of the value of metal production in the nation, and is also a major producer of industrial minerals. In recent years the value of mineral production has ranged between \$4 billion and \$7 billion per year.

Metal production, concentrated in Northern Ontario, accounts for 75 per cent of the value of minerals produced in Ontario. Six metals - nickel, gold, copper, zinc, uranium and cobalt, account for 95 per cent of this value. Silver and platinum group metals are produced in significant amounts. On the world scale, Ontario is the second largest producer of nickel, and is a significant producer of gold and platinum group metals.

Industrial minerals, concentrated in Southern Ontario, account for about 5 per cent, fuels for 1.5 per cent, and mineral aggregates for about 19 per cent of the value of mineral production.

A healthy mining industry is critical to the overall economy of the province and to the rest of Canada. It is vitally important to the Northern Ontario economy, which depends largely on mining and forestry. Many communities, particularly in Northern Ontario, are directly supported

by the mining industry. Other communities, including many in Southern Ontario, benefit through employment in local mining, processing operations or secondary manufacturing of products that use metals or metal products; for example, the automobile industry.

Indirect or "spin-off" benefits from the industry flow to still other communities through employment opportunities in the service and financial sectors.

The mining industry makes a significant contribution to the high standard of living enjoyed by residents of Ontario. In recent years the industry has provided more than \$1 billion annually in wages and salaries to residents of the province.

Wages in the industry are among the highest in the industrial sector, and the value added per employee is among the highest in industry, exceeding that for workers in the forestry, pulp and paper, construction and automotive industries. The industry is also a significant source of government revenue. In recent years the industry has provided more than \$1 billion annually in revenues to governments.

The industry directly employs some 18,000 people, with another 5,000 employed in aggregate operations, producing indirect employment for approximately 75,000 additional people in related processing and metal fabrication industries.

The mineral industry provides a steady flow of minerals and metals to feed our industries, build our cities and infrastructure. It continues to generate new wealth, earns income from exports, and provides high levels of income to the thousands of Ontarians directly employed in it.

A healthy mining industry requires that new resources must constantly be explored for and discovered to replace resources being mined. Potential reserves of valuable minerals exist in many parts of Ontario but conflicting land uses impair access to land for mineral exploration, development and mining.

It is for these important reasons that the province's interest in mineral resources has been expressed in a separate policy statement for planning decisions under the *Planning Act*.

Special Characteristics of Mineral Resources and Land Use

The following are some special characteristics associated with mineral resources and the use of land, highlighting the relationship of minerals in the ground to decision making about land uses on the surface of that ground. It outlines the importance of protecting those resources from incompatible uses to allow for future resource development.

- Minerals are nonrenewable resources and as they are mined, exploration for new deposits is necessary to ensure sustained development and future availability of Ontario's mineral resources.

- Geological factors dictate that certain land areas have higher potential for discovery of mineral resources than others.
- It is important that as much land as possible be open for exploration in order to identify land areas with mineral potential.
- The mineral potential rating of a given area may be subject to change or refinement based on new geological concepts and knowledge, and advances in exploration, mining and processing technology; for example, areas that have been explored without significant results will often have to be re-examined and re-explored in the future.
- While access to large areas of land is required for mineral exploration, individual mines cover relatively small areas, generally a few tens of hectares.
- Mineral exploration is a temporary activity that generally has minimal impact on the land.
- Many land uses are compatible with exploration on the same land base (e.g., agriculture, forestry, outdoor recreation, wildlife management).
- Many uses on adjacent lands are compatible with mining (e.g., agriculture, forestry, outdoor recreation, wildlife management, manufacturing and other industrial activities).
- The locations of mineral deposits are fixed by nature, and they can only be mined where they occur.
- The location of a mine cannot be predetermined by planning; nor can a mine be relocated elsewhere such as can a manufacturing plant.
- A mineral deposit consists of an unusually large and/or rich concentration of valuable minerals within a small part of the Earth's crust, making it technically and financially difficult to find and evaluate.
- Few areas of land are totally devoid of mineral deposits, but most deposits are either too small and/or too lean in valuable constituents to make their extraction worthwhile.
- Mineral deposits that are sufficiently large and/or rich in valuable constituents to justify mining are very rare.
- In the past, mines and communities have developed over unusually large mineral deposits, such as in Sudbury and Timmins; however, this is no longer the case. The majority of today's new mines are going into production on the basis of relatively smaller economically viable mineral deposits and generally there is no new establishment of permanent mining communities with these new mines.

1.4

Goal Rationale

Goal F of the Comprehensive Set of Policy Statements is:

"To protect *mineral and petroleum resource operations, deposits of mineral and petroleum resources, and areas of potential mineral and petroleum resources* for resource use."

Mineral resources are essential nonrenewable resources. To ensure future availability, Ontario's mineral resources should be accessible and capable of being developed.

At the same time, all Ontarians must have the assurance that their often indirect mineral resource needs, for example, in the materials of their homes and work environments, are considered at every stage of the planning process.

In the past, incompatible developments or land use policies have restricted the ability to expand existing mineral resource operations, have prevented development of known resources, and have prevented exploration for the "new" resources. "New" resources must be found to replace those being mined if the mining industry is to be sustained in the province in order to support the wellbeing of its residents and to provide opportunities for future generations.

In recent years competition for the use of Ontario's land base has materially increased. There is also an increased awareness of the environmental implications of any land-based development.

As a result there is now a strong need for a policy that sets out the means to ensure that opportunity is provided for exploration on lands with identified mineral potential, and that mineral resources, when discovered, can be brought into production while at the same time providing for compatibility of adjacent land uses and assuring that environmental values are sustained.

The *Planning Act* is a proactive tool that allows for provincial interests to be expressed through policy, up front in the planning process and before decisions about land use are made.

The mineral resources policy statement will ensure that there is a future land base upon which mineral exploration can take place and where existing mining operations can continue. Together with other policy statements under the *Planning Act*, the *Mining Act* and other related legislation, there is a responsible and environmentally sound framework within which mineral resources can be developed and mined, and upon closure of a mine, the land rehabilitated so it can be safely used for other purposes.

To this end, decision makers should take into account the presence of existing mining operations, known mineral deposits as well as possible areas for future exploration and mine expansion in the interest of broader community needs.

2

POLICY

Explanation and Implementation

Definitions of terms from the policy statements may be found in the Glossary. Please see Appendix A.

Policy F2.1 Identification and Protection for Resource Use

Policy F2.1 states that:

"Mineral (and petroleum) resource operations, deposits, and areas of potential mineral (and petroleum) resources will be identified for resource use and protected from incompatible development₃."

Policy Intent

Mineral resources are finite in nature. While the nature of demands may change, there will continue to be a public need for mineral resources to sustain our everyday lives and quality of living. As current mineral reserves are depleted to meet today's public needs, more mineral resources must be found in order to meet the needs of future generations.

The purpose of this policy is to ensure that existing mining can continue in an orderly manner and to ensure that future opportunities remain to explore for and develop new mineral resources.

Resource Use

Using mineral resources first entails being able to find those resources in the ground by conducting mineral exploration. When the mineral rights are held by the Crown, permission to enter a land area to explore must first be obtained by obtaining a prospector's license which may then be followed by the staking of a mining claim. Where an individual or company owns both

the mineral rights and surface rights as private land, the staking of a claim is unnecessary.

Where the surface rights are privately held and the mineral rights are owned by the Crown, it is still necessary to stake a mining claim as the first step in the process of obtaining rights to the minerals. There is a requirement under the *Mining Act* to notify the surface rights holder before entering the property to conduct mineral assessment work. The *Mining Act* also requires that compensation be made to the property owner should any damage result from the mineral rights assessment work. There is an appeal process available should the parties be unable to reach agreement on compensation.

As illustrated in Appendix E - Land Use by Mining Exploration to Production, mineral exploration activities generally occur over large areas of land. This involves minimal disturbance to that land in the course of focusing on "target areas" and eventually mineral deposits.

Using mineral resources also means that once a mineral deposit has been discovered, further on-site evaluation, or "advanced exploration" techniques are conducted to determine if that deposit is feasible to mine. When this stage is reached in the "mining sequence", described in Appendix C - The Mining Sequence, the area under intense evaluation is a very small fraction of the land area originally identified for exploration.

There is a requirement to abide by all legislation as it may apply to the property, including, among others, the *Mining Act*, the *Environmental Protection Act* and the *Planning Act* when approvals are required on private land.

Resource Identification

Existing mining operations are usually identified by land use surveys conducted by planners as part of new official plan development or an official plan review.

Existing mining land dispositions can be identified by referring to information that is publicly available on mining claim maps in the office of the local Mining Recorder, or in the Resident Geologist's office in centres where there is no Mining Recorder's office (e.g., Tweed, London). Mining land dispositions may include mining patents that are private land, or mining leases that are only renewable by the Crown and are not private land under the *Planning Act*. There are also other categories of patents, such as agricultural patents, in which the mining rights will be held privately and not by the Crown.

Mining Claim maps will also show where Crown Land or mining rights are still open to mineral prospecting and staking and where Crown Land mineral rights have been staked. These Crown Land properties, like mining leases, are not subject to the *Planning Act*.

Information on known mineral deposits is available from offices of the Resident Geologists, MNM (Appendix F).

Identification of areas that are highly favourable for mineral exploration, or areas of mineral potential, is based on qualitative analysis of geological information that is publicly available in the offices of the Resident Geologists in MNM. The mineral potential evaluation is a procedure to

evaluate the potential for undiscovered mineral resources within a geographic region. For planning purposes, the geographic region is usually the area covered by the official plan.

MNDM has developed a *Procedural Guideline for Qualitative Mineral Potential Evaluations*, supported by technical reports. The guideline describes the procedure for qualitative mineral potential evaluations conducted by Resident Geologists and other geoscientists in the Ontario Geological Survey of MNDM. This procedure has also been developed in a manner intended to be clearly understood and applied by technically qualified geoscientists outside of the Ontario Geological Survey. The Guideline is available by contacting any Resident Geologist's office.

When mineral potential evaluations are conducted as part of MNDM's input to the preparation of official plans, the studies represent an evaluation of the project area at the particular time, based upon the available geological information. As such, mineral potential evaluations are dynamic and may change with additional geological information.

Where new geological information results in a change to a previous mineral potential evaluation report or mapping for an official plan area, MNDM will incorporate this new information as part of its input at the next official plan review interval, or through an appropriate official plan amendment, depending on the nature of the new information and the timing of the next official plan review.

Incompatible Uses

Mineral exploration activities and most land uses are compatible as there is minimal disturbance impacting the land use. For example, noise from on-site exploratory drilling may be one of the more obvious impacts; however, it is generally for a very short, often seasonal, duration. Where potential impacts have been identified, mitigation can usually be addressed, for example, through adjustment to timing and duration of operational activities.

At a mineral extraction or mine production stage, the mining method, whether underground or open pit/quarry, and the type of surface activities, will determine what uses may be compatible or incompatible depending on proximity to the operation.

The determination of incompatibility is very much dependent on the site specific circumstances. Nevertheless, uses that are generally more sensitive to noise levels or other activities normally associated with an industrial operation, should be located outside of areas with potential for future mineral resource extraction. Past experience has shown that residential uses, whether permanent or seasonal, and institutional uses such as hospitals, schools and day care facilities are most sensitive to the proximity of industrial operations.

Possible Implementation Approaches

There are a number of options for identifying and protecting mining operations, deposits and areas of potential through official plan policies and accompanying land use schedules, implementing zoning by-laws and other planning tools.

Mining Operations

Planning authorities should identify and protect mining operations, including past-producing mines with remaining mineral potential, by:

1. developing official plan policies that recognize mining operations as permitted uses and allow for their expansion without the need to amend implementing zoning by-laws, if applicable, and in accordance with an MNDM approved mine closure plan;
2. developing official plan policies that allow for the resumption of use, without a rezoning requirement, where there is an MNDM approved closure plan in place, for any past-producing mine that has remaining mineral reserves in the ground;
3. identifying mining operations, including past-producing mines with remaining mineral potential, in a separate designation for mineral resource extraction on the official plan land use schedule and in the implementing zoning by-law; and
4. including policies in the official plan that advise development proponents to ascertain the status of subsurface mineral rights for prospective properties. Holders of subsurface rights have additional legislative rights in land.

Deposits and Areas of Mineral Potential

MNDM will identify mineral deposits and areas of mineral potential up front in the planning process as part of its input for MNDM municipal planning interests.

Planning authorities should identify areas of mineral potential and mineral deposits on official plan land use schedules with accompanying policies in the official plan to reflect the intent of the policy statements of goal F.

Official plan policies should allow for mineral extraction in areas of mineral potential and mineral deposits without a requirement to amend implementing zoning by-laws.

Where a planning application is required (e.g., for a pit or quarry on private land), another approach is to require a zoning by-law amendment before a new mineral extraction operation can be established. Such an amendment procedure may be viewed as unnecessary duplication when the proponent is also required by the *Mining Act* to file financial assurance and obtain MNDM approval of a mine closure plan before commencing the mine operation. The closure plan approval process as described in Appendix E includes public notice requirements, agency consultation and closure plan review including the affected municipality.

Mineral deposits and areas of potential may be identified and protected by one or a combination of the following:

1. identifying mineral deposits and areas of potential on the official plan land use schedule with accompanying policies that would permit a range of compatible uses in the land use designation;
2. identifying mineral deposits and areas of potential as a development constraint overlay on the official plan land use schedule with accompanying policies that would permit a range of compatible uses in the land use designation; and
3. restricting incompatible uses in mineral deposit and mineral potential areas, subject to satisfying justification criteria developed in consultation with MNDM as part of the official plan process.

Justification criteria need to be tailored to fit local circumstances, the type and nature of mineral resources, the mining methods to extract those resources, for example, surface or underground mining or a combination of both, and the associated facilities and activities such as onsite processing or transportation of ore and materials. Nevertheless, when determining justification criteria for land use compatibility, as a minimum, the following factors should be considered:

1. Is the proposed use consistent with the growth and settlement (B8 to 11) and land use compatibility (B17) policies in the Comprehensive Set of Policy Statements especially in regard to development in resource areas?
2. What, if any, activities and uses associated with mineral extraction will have an adverse effect on the proposed development?
3. Can the sensitivities of the proposed development be appropriately addressed by determining the impact of noise, dust, odour and particulate in accordance with MOEE Guideline D6: *"Compatibility Between Industrial Facilities and Sensitive Land Uses"*.
4. Will the proposed development and its influence area effectively hinder or preclude access to the mineral resource?

Other Considerations

Outside of settlement areas and areas specifically identified as mining operations, mineral deposits or areas of mineral potential, planning authorities are encouraged to recognize mineral exploration activities in official plans and implementing zoning by-laws. Land use designations outside of settlement areas often recognize a wide variety of compatible activities and uses that coexist in rural areas of municipalities or in unorganized territories within planning board areas.

Mineral resource development should also recognize the presence of other existing uses and

the potential for impacts on these uses, such as noise. One example of how this has been addressed is through the adoption of standards of practice for mineral exploration activities in the vicinity of tourist operations. *A Mineral Exploration and Tourism Handbook* was produced by MNDRM in cooperation with MNR, the Ministry of Tourism and Recreation, the tourism and mineral exploration industries.

It should also be noted that mineral exploration has been conducted in the heart of built-up settlement areas adjacent to residential uses in an unobtrusive manner with no adverse effects. This has been achieved largely as a result of the technological sophistication of machinery and equipment and the skilled methods of conducting mineral exploration by mining companies of today. Recent examples of this have taken place in the downtown core of the City of Timmins. Official plan policies can be developed to acknowledge and accommodate these activities as local circumstances warrant.

In the absence of mineral deposit or mineral potential mapping, official plan policies could recognize mineral exploration as an activity throughout the rural area. The policies should also provide direction on the planning approval requirements should mineral resource extraction be proposed for a specific site within the rural area but outside settlement areas.

Planning for the new location or expansion of infrastructure, such as transportation and utility routes, should consider how location routing may facilitate future mineral exploration, development or production where sufficient information about the mineral resources and mining company intentions is known and provided to the planning process.

Reference should also be made to the implementation guidelines for policies B4 (diversified economic base), B8 to 11 (growth and settlement), and B17 (land use compatibility).

Policy F2.2 Development in Areas of Deposits and Potential Mineral Resources

Policy F2.2 states that:

"In areas of *deposits* and areas of *potential mineral (and petroleum) resources*, *development*, that precludes or hinders future access to and use of these resources will be permitted only if

- a) resource use is not feasible; and
- b) existing or proposed uses serve a greater long-term public interest than does resource use."

Policy Intent

Access to Resources

The delineation of areas of mineral potential is developed on the basis of a number of criteria and their evaluation, as described in Appendix D. In order to further evaluate areas of mineral potential by specialists in mineral exploration techniques, access to the areas is required.

The most common access is generally by road, often temporary in remote areas, for any on-ground evaluation such as exploratory drilling or trenching. The presence of existing roads avoids disturbance from the construction of new or temporary roads. Other options, if feasible, may also be used, such as air, water or rail.

After the presence of a mineral deposit has been delineated, usually through numerous phases of assessment work, there is still a need to access the land in order to evaluate whether the deposit is economically feasible to mine by assessing grade and metallurgy. This may be done by taking what is known as a bulk sample. Again, access is most desirable by road in order to transport the bulk sample to the nearest facility for testing and evaluation.

As these stages of evaluation are undertaken, the size of the land area under evaluation is further and further narrowed down to the site that would be most feasible to develop as a mine. A graphic illustration of this point is contained in Appendix D.

Before a mine production decision is made, a "feasibility study" will be undertaken, including but not limited to such "access" considerations as: ability to transport people, materials and product to and from the mine site without disruption; availability of optional transportation facilities; availability of supporting infrastructure, such as water supply, waste disposal, hydroelectric power, and natural gas; timing and feasibility of obtaining approvals for the proposed mine and for any future expansion.

Access to mineral resources can be hindered in a number of ways. Some of the main reasons may be, but not restricted to:

- when access by existing road, new road, temporary road or bush trail is prohibited for purposes of preliminary or advanced mineral exploration;
- when incompatible land uses have been previously allowed on the land, or abutting the land that has been identified for mineral exploration, or mine production;
- when there is no possibility that the infrastructure necessary for mine development will be available or allowed; or
- when there are lengthy delays in the approval process.

Feasibility of Resource Use, Priority over Resource Use and the Greater Public Interest

Under what conditions or circumstances, if any, should other development take priority over resource use?

In keeping with policy F2.1, decision making should make every effort possible to allow for the coexistence of mineral resource activities that are temporary and other land uses that are more permanent in nature. Achieving this policy objective may be easier to satisfy outside of settlement areas. Within settlement areas there are generally more uses competing for the same land base, thus creating a greater chance of land use conflict between new or expanding development and undeveloped mineral resources.

There will be occasions when a planning choice will be required between protecting a mineral resource for the future and another decision that will prevent that opportunity from ever taking place. It is anticipated this will be under very exceptional circumstances and that the decision-making process will have examined and exhausted all available alternatives before making a final, irreversible choice.

Before such a planning decision is made, there are a number of factors requiring analysis by the proponent related to the necessity of the proposed development in comparison to the forgone lost value of the undeveloped mineral deposit. Some of these are, but should not be limited to analysis of:

- the economic, social and environmental benefits that will accrue from the proposed development and from resource use;
- current economic circumstances and the likelihood of the mineral resource being developed within the official plan planning horizon;
- the planning lifespan of the proposed development as compared to mineral extraction. Is there an opportunity for sequential use, by allowing the resource to be extracted first followed by the proposed development?
- whether the proposed development and mineral extraction can coexist. For example, would the mining method be open pit/quarry or underground? Can mining infrastructure be located off site or adjacent to the development proposal using non-obtrusive and compatible site design and construction methods?
- the nature and sensitivity of physical features and existing development constraints that may restrict the feasibility of mining the resource or developing the other use;
- whether the proposed development can be feasibly located on another site so that it would not conflict with mineral extraction; and

- whether there is enough information and data available to answer the aforementioned questions; will it be necessary to undertake additional onsite mineral resource analysis in the proposed development area in order to make a fully informed planning decision?

The development proponent is encouraged to consult MNDM through the local Resident Geologist's office to determine the availability of mineral-related information that may assist with the analysis.

Possible Implementation Approaches

It is recommended that official plan policies and implementing zoning by-laws allow only for the coexistence of compatible uses in areas identified for future mineral resource extraction.

Past experience has indicated that conflicts arise when sensitive land uses have been allowed to locate in proximity to mineral resource extraction operations with no consideration to buffering, setbacks or other mitigation techniques.

Official plan policies should contain criteria, in consultation with MNDM, to identify the conditions under which incompatible development may be allowed, if at all, in mineral resource areas.

The application of the complementary community growth and settlement policies (B8 to 11) under goal B, may also serve to minimize conflicts outside of settlement areas. Reference should be made to the separate implementation guideline for these policy statements.

Planning for the new location or expansion of infrastructure, such as transportation and utility routes, should consider how it may facilitate access for mineral exploration or production where the needs of the mining industry have been articulated to the municipality either through generalized input from MNDM or by specific comments by the mining industry through public or stakeholder consultation.

The mineral exploration and mining industry should be included in the public consultation phases of the planning process for official plan development and site specific applications that may impact on mineral resources. Through involvement from this sector, there may be opportunities to develop creative planning solutions in these circumstances.

The Resident Geologist's office for the area, as listed in Appendix F, can provide advice on appropriate contacts in the mineral exploration and mining sectors. Also, a list of major sector organizations is included in Appendix G - Mineral Exploration and Mining Sector Organizations. These organizations may be contacted directly to determine degree of involvement in the public consultation process.

Policy F2.3 Development Adjacent to Deposits and Operations

Policy F2.3 states that:

"Development₃ on lands adjacent to mineral and petroleum resource operations, or adjacent to areas of deposits will be permitted only if:

- a) the development₃ would not preclude or hinder the continuation of the existing operations; and*
- b) the development₃ would not preclude the development of the resource; and*
- c) issues of potential public health and safety and environmental protection are addressed."*

Policy Intent

The purpose of this policy statement is very similar to the purpose of policy statement F2.1, because the objective is to avoid, as much as possible, land use conflicts with incompatible uses. There is also similarity in policy intent with policy F2.2 to ensure future access to the mineral resources. Reference should be made, in particular, to previous sections on Resource Use, Incompatible Uses, and Access to Resources.

This policy addresses lands adjacent to mineral resource areas, while policy F2.1 addresses issues within mineral resource areas.

An exception is that policy F2.1 includes areas of mineral potential, while policy F2.3 applies to lands adjacent only to mineral deposits and to mining operations.

It may be possible for incompatible development to abut or encroach an area identified as a mineral deposit, or on land over the deposit where:

- the future mining method will be underground, consequently with little or no surface impacts; and,

- the development will not conflict with the location of associated surface facilities to support the underground mining operation.

Where mining operations already exist, development decisions for land that is abutting the operation should consider how the presence of that development may constrain existing activities or the ability for the operation to continue through expansion of its activities into new mineral reserve areas:

- Where the mining method is underground, expansion into new mineral reserve areas may have no change whatsoever to the existing surface facilities.
- Open pit or quarry extraction of minerals, on the other hand, needs to physically expand the surface extraction in the direction of the new mineral reserve area. The presence of an incompatible development on adjacent lands may severely constrain or prevent the expansion from occurring.

The degree of influence that a mining operation will have on adjacent development will vary from site to site, depending on many factors including, but not necessarily limited to, the size and type of mining operation, and the location, type and intensity of surrounding land uses. Factors such as noise, vehicular traffic, odour, airborne particles or emissions, often associated with normal day to day surface mining and industrial operations, must be examined in the context of the compatibility of development adjacent to mining operations. In an effort to avoid or minimize land use conflicts, new development that would be incompatible with adjacent mining should be discouraged.

An influence area should be established from the point of view of protecting mining from encroachment by incompatible development, and protecting sensitive natural features and sensitive land uses from mining.

Reference should also be made to the implementation guideline for policy statement B17 on land use compatibility, particularly for industrial and mineral aggregate facilities.

Possible Implementation Approaches

Official plans should contain criteria, developed in consultation with MNDM, to determine:

1. the types of development that would be considered compatible adjacent to areas of known mineral deposits and to mining operations;
2. the influence area in which development on adjacent land may impact an existing mining operation or future extraction in a known mineral deposit;
3. the influence area in which an existing mining operation may impact development on adjacent lands; and

4. the conditions and requirements under which incompatible development may be permitted, if at all, on adjacent lands.

Policy F2.4 Rehabilitation

Policy F2.4 says that:

"Rehabilitation of mineral and petroleum resource lands will be required after extraction and other related activities have ceased."

Policy Intent

Mining always has a finite lifespan depending on the mineral reserves, and as such is temporary or interim in nature. When mining ceases, the objective is to rehabilitate the mine site to its former condition or use, or to a condition or use that is compatible with surrounding land.

Mine development and production will cause land disturbance. The degree and nature of disturbance will depend largely on the types of minerals being extracted and mining method, whether underground, open pit or quarry. It will also depend on the size of the mineral reserves.

In the case of metal mining, some of this disturbance will be on the land surface with buildings, structures, employee parking areas, waste storage and any onsite processing facilities. Actual extraction of the minerals generally takes place underground. In Ontario, there are fewer open pit metal mining operations than there are underground mines.

The mining of nonmetallic, or industrial nonaggregate minerals, generally takes place on the surface. However, there are a number of examples in Southern Ontario where minerals, such as gypsum and salt, are mined underground with very little if any disturbance to the surface other than office and equipment storage buildings and employee parking. Agriculture and mining, for example, readily coexist in these situations.

Where industrial minerals are extracted by open pit or quarry, on-site buildings, structures and surface facilities are still generally restricted to employee facilities and equipment storage. There is very little, if any, on-site processing due to the physical and chemical nature of the industrial mineral. Some crushing of materials may take place on site before the material is transported off-site to the nearest market.

The purpose of this policy is to ensure that rehabilitation of mine sites under the *Mining Act* and planning decisions about existing and future land use under the *Planning Act* may take place in a coordinated and integrated manner.

As of June 1991, the Ontario *Mining Act* requires that all existing and new mining operations must have plans for rehabilitation or "closure", including financial assurance, approved by the Ministry of Northern Development and Mines (MNDM).

Closure Plans will address such matters as public health, public safety and environmental considerations and the after-use of the property.

No new mines can commence production without approved mine closure plans and financial assurance. The *Mining Act* also enables MNDM to require that former hazardous mine sites be rehabilitated to a safe condition. Policy A3.3 addresses development and mine hazards. Reference should be made to the separate implementation guideline for that policy statement.

If activities at an advanced exploration site or a mine have been temporarily suspended, the *Mining Act* requires that an accepted closure plan be in place for the affected property. The closure plan will address the future possibility of the resumption of mining.

It should also be noted that after a mine site is rehabilitated, according to the *Mining Act* requirements, the rehabilitation works cannot be altered or disturbed without the approval of the Minister of Northern Development and Mines.

A more detailed description of the *Mining Act* closure plan approval process and rehabilitation requirements is contained in Appendix E.

Possible Implementation Approaches

The requirement to rehabilitate mine sites and the enabling legislation to enforce this rests with the *Mining Act* and the Ministry of Northern Development and Mines (MNDM), responsible for coordinating the review and approval of closure plans.

Where existing or proposed mining operations are located in areas under official plan coverage, the planning authority, whether a municipality or a planning board, will be involved in the closure plan review process that is coordinated by MNDM. Through this coordination there is a joint opportunity for rehabilitation objectives and planning objectives to be simultaneously achieved.

Where development, as an after use, has not been addressed in a MNDM approved mine closure plan, written consent is required by the Minister of Northern Development and Mines under Section 167 of the *Mining Act* where such development proposes to alter, destroy, remove or impair any rehabilitation work.

To this end, during official plan development, planning authorities should work closely with MNDM and with the owners of the mining operations to ensure that the rehabilitation of the mine site is undertaken in a manner that will be compatible with surrounding uses and the long term planning objectives for the community.

Appendix

Glossary

This appendix contains relevant excerpts from the Definitions section of the Comprehensive Set of Policy Statements for reference purposes. Other relevant definitions are also included in this section to explain additional terminology used in the implementation guideline.

Relevant Definitions from the Comprehensive Set of Policy Statements

Abandoned mine hazards:

means surface or underground mine workings, surface buildings or structures, tailings, waste-rock piles, areas of subsidence or any other component of a mine site that has not been rehabilitated.

Adverse effects:

means one or more of:

- impairment of the quality of the natural environment for any use that can be made of it;
- injury or damage to property or plant and animal life;
- harm or material discomfort to any person;
- an adverse effect on the health of any person;
- impairment of the safety of any person;
- rendering any property or plant or animal life unfit for use by humans;
- loss of enjoyment of normal use of property; and
- interference with normal conduct of business.

Built-up areas:

means areas within hamlets, villages, towns or cities where development is concentrated. It includes existing development, as well as vacant registered and draft approved lots.

Contaminated site:

means property or lands that, which have not been rehabilitated and which, for reasons of public health and safety or environmental quality, are unsafe for use as a result of human activities, particularly those activities that have left a chemical or radioactive residue. Such sites include some industrial lands, some transportation facilities, electrical facilities, and some abandoned mine hazards.

Deposits:

Deposits of petroleum resources include oil, gas, or brine resources which have been identified through exploration and verified by preliminary drilling or other forms of investigation and may include sites of former operations where resources are still present.

Mineral deposits:

means an unusually large or rich concentration of valuable minerals identified within a small part of the Earth's crust. An area of identified mineral potential may contain one or several mineral deposits.

Development₃:

means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill.

Hazardous site:

means property or lands that have not been rehabilitated which for reasons of public health, safety, or potential property damage, could be unsafe for development as a result of naturally occurring or human-made hazards. They may include unstable lands, or areas subject to changes as a result of their previous use as sites for petroleum operations, sites prone to erosion, slopes and banks, unstable soils such as some organic and clay soils (leda and portlandia clays), areas of unstable bedrock (karst topography), sites containing orphan wells, suspended wells, former salt solution mining sites, and abandoned mine hazards.

Infrastructure:

means physical structures that form the foundation for development. Infrastructure includes: sewage and water works, waste management systems, electric power, communications, transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Minerals:

Industrial minerals are generally synonymous with non-metallic minerals and include any rock, mineral or other naturally occurring substance of present or potential economic value, exclusive of metallic ores, mineral aggregates and mineral fuels.

Metallic minerals have a high specific gravity and a metallic lustre from which metals (such as copper, nickel, or gold) are derived.

Non-metallic minerals lack the common properties of metallic minerals, such as metallic lustre or high specific gravity, and are generally of value for intrinsic properties of the mineral itself and not as a source of metal. They are generally synonymous with non-aggregate industrial minerals such as asbestos, gypsum, nepheline syenite, rock salt and talc.

Mineral Aggregates means sand, gravel, shale, limestone, dolostone, sandstone, and other mineral materials suitable for construction, industrial, manufacturing and maintenance purposes, but does not include metalliferous minerals, fossil fuels, or nonaggregate industrial minerals such as asbestos, gypsum, nepheline syenite, peat, salt and talc or mine tailings.

Mineral and petroleum resource operations:

means:

- mining operations and associated facilities;
- oil, gas, and brine wells and associated facilities, oil field brine disposal wells and associated facilities, and facilities for the underground storage of natural gas and other hydrocarbons;
- areas of existing mining land dispositions; and
- past producing mines with remaining mineral development potential.

Potential mineral and petroleum resources:

means areas favourable to the discovery of deposits of mineral or petroleum resources due to favourable geology, the presence of known deposits or other technical evidence.

Rehabilitate:

means, after extraction, to treat land so that the use or condition of the land is restored to its former use or condition, or is changed to another use or condition in accordance with applicable legislation. With respect to flooding, erosion, and unstable soils, means a combination of appropriate and acceptable structural and non-structural works which are intended to reduce damages caused by flooding, erosion, and unstable soils, plus an allowance to address slope and unstable slope related conditions.

Settlement areas:

means built-up areas and that surrounding land which has been designated for development over the long term planning horizon. In some cases, the settlement area may be no larger than the built-up area.

Other Explanations of Terms Used in this Guideline

Bulk Sample:

means to mine, mill and refine a mineral bearing substance from an unpatented mining claim for the purpose of testing mineral content, subject to written permission from the Minister of Northern Development and Mines. Permission to take a bulk sample is required for samples that range in size from 10 tonnes to 499 tonnes. Over 499 tonnes, approval for a bulk sample is subject to additional requirements of Part VII of the *Mining Act*, Operation of Mines.

Ore, orebody:

means a natural aggregate of one or more minerals which, at a specified time and place, may be mined and sold at a profit, or from which some part may be profitably separated.

Reserves:

means known mineral deposits that have been measured, through exploration activities, in sufficient detail that tonnage, grade, and thus amount of contained metal (or other valuable constituent), can be calculated. As commonly used, the term implies that profitable extraction is possible, either under present economic conditions or in the near future under certain specified conditions.

Target area:

means an area of interest for mineral resource exploration, an area that is being, or is likely to be investigated for “new”, as-yet undiscovered mineral resources.

Third dimension:

means depth within the Earth. Most land use plans concern only the two dimensions of surface features in plan view, length and width. Physical dimensions of mineral deposits are expressed in terms of their lengths, widths, and vertical extent into the Earth.

Appendix

Generalized Classification of Economic Minerals

See Illustration on Following Page

Generalized Classification of Economic Minerals



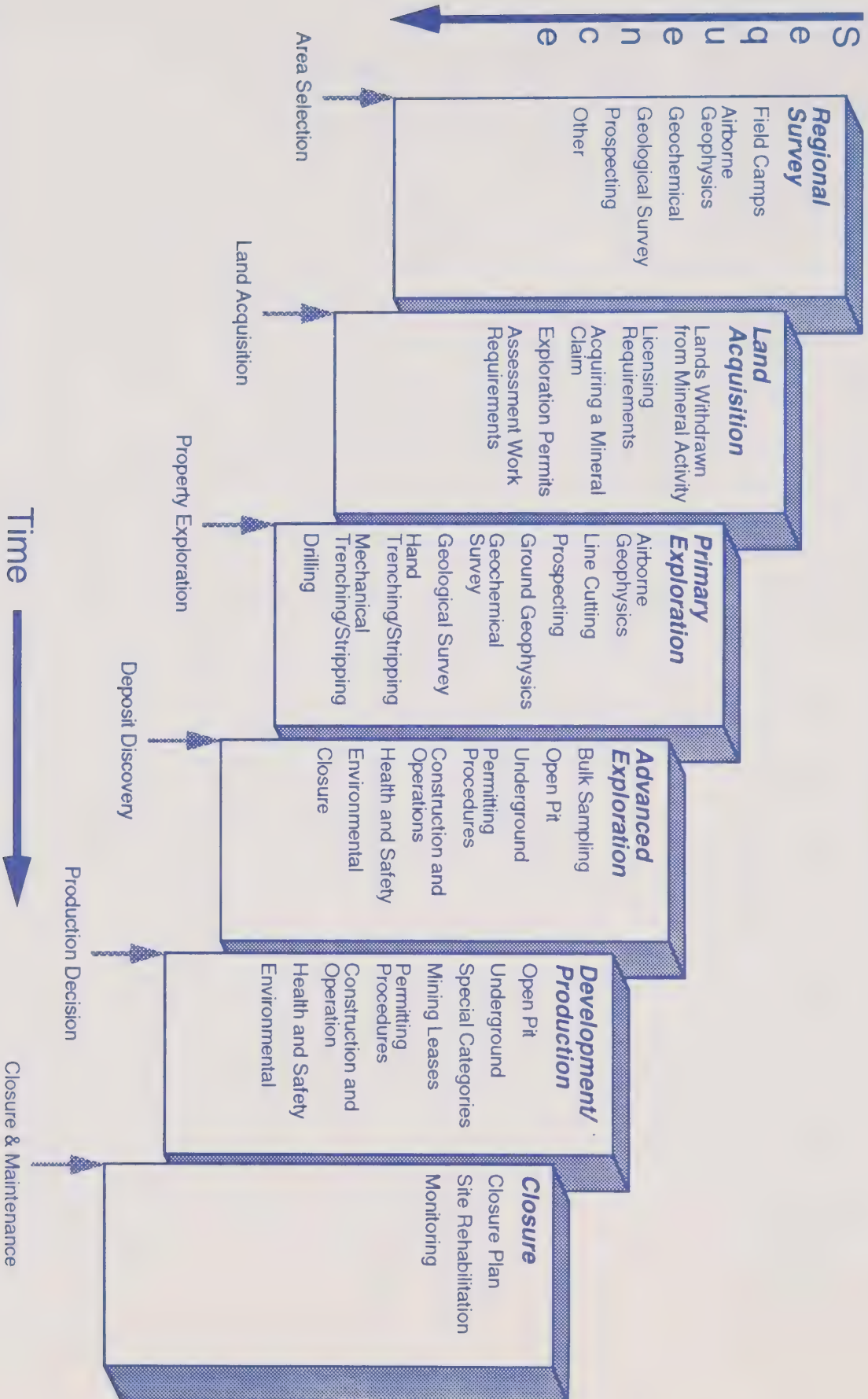
Source: from Minerals Today, Oct. 1992

Appendix

The Mining Sequence

See Illustration on Following Page

The Mining Sequence



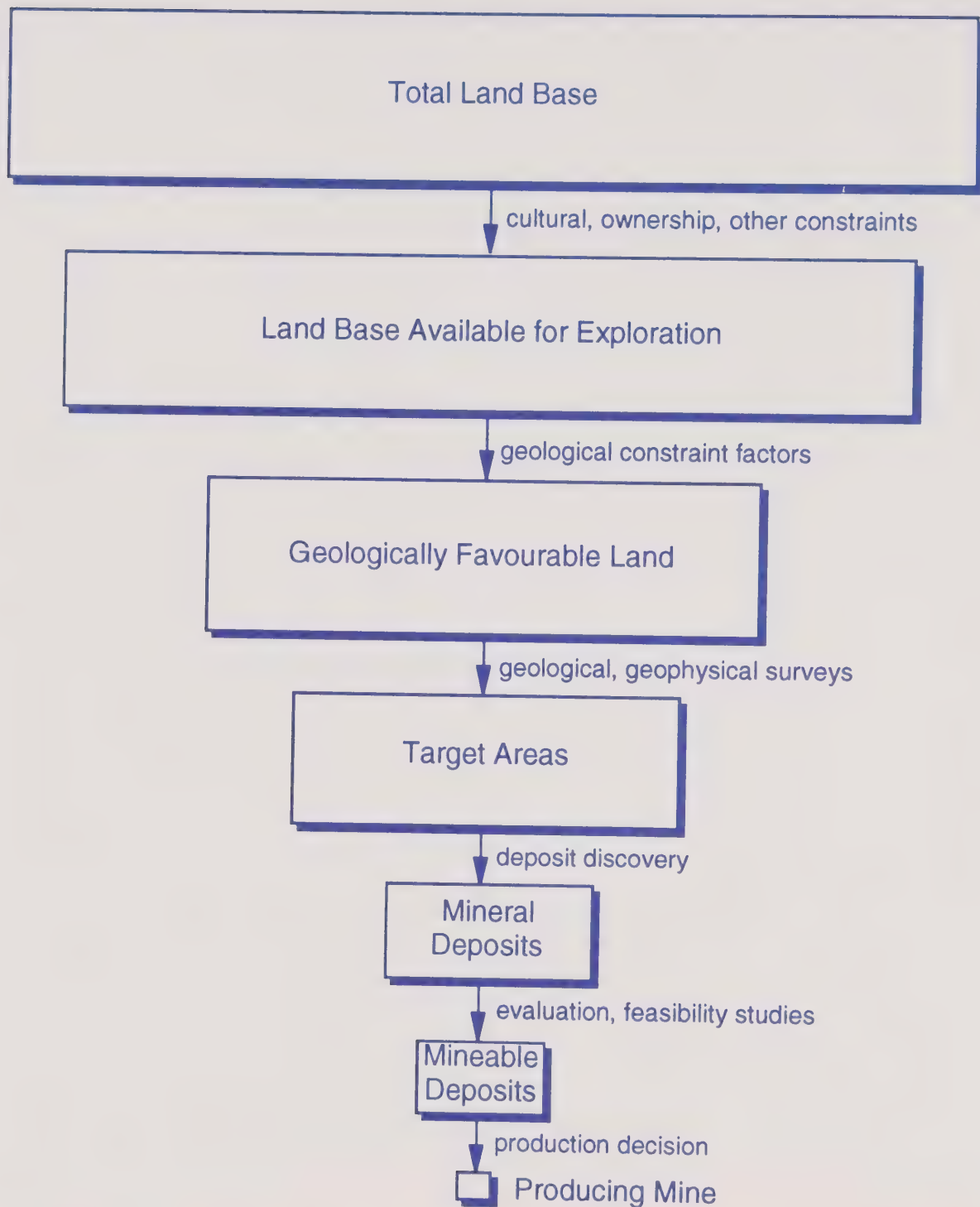
Source: Prospectors & Developers Assoc. of Canada;
Pearson, Hoffman and Associates Ltd.;
Ontario Ministry of Northern Development and Mines

Appendix

Land Use by Mining Exploration to Production

See Illustration on Following Page

Land Use by Mining: Exploration to Production



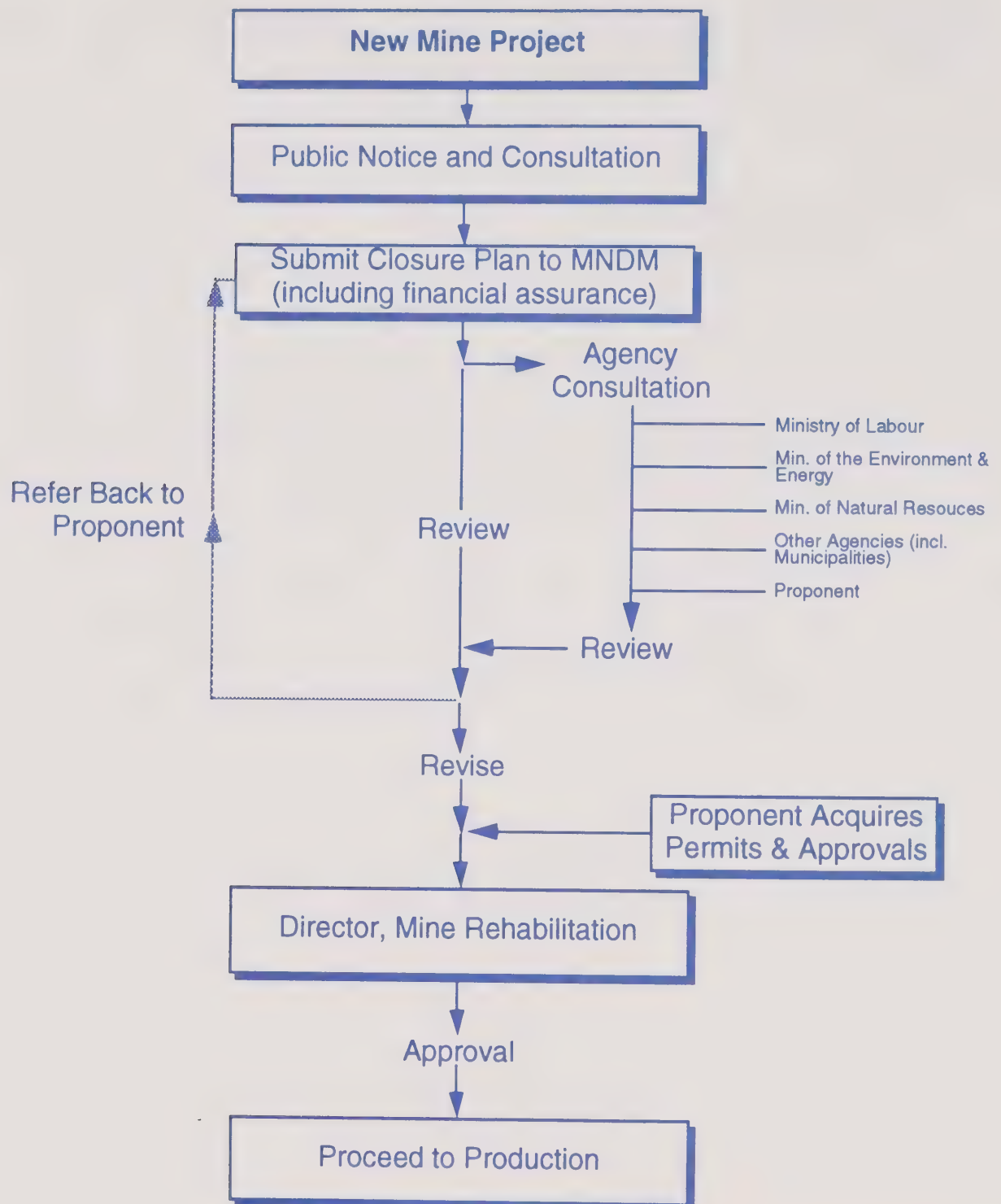
Source: Ontario Ministry of Northern
Development and Mines

Appendix

Review of Closure for New Mining Operations, and Summary of Mining Lands Rehabilitation Regulations

See Illustration and Text on Following Pages

Review of Closure Plan for New Mining Operations



Source: Ontario Ministry of Northern Development and Mines

Summary of Mining Lands Rehabilitation Regulations

The following is an excerpt from a summary brochure prepared by the Ministry of Northern Development and Mines (MNDM), directed mostly at mine proponents. It gives an overview of the mine rehabilitation, closure plan approval, and financial assurance requirements.

Mining Act of Ontario - Summary of Mining Lands Rehabilitation Regulations

Ontario's mining industry has taken a new approach to mining in the 1990s and beyond; an approach which recognizes the value of increasing public understanding and trust. This approach is reflected in regulations, designed jointly by industry and government, to set acceptable standards for the closure of mines and the rehabilitation of lands used for mining activities.

This brochure summarizes the key regulations of the *Mining Act* of Ontario concerning the rehabilitation of mining lands. It is intended for your information only and is not a legal document.

The complete regulations appear in Part 7 of the *Mining Act* RSO/RRO 1990s, and are uniform across the province. For a copy of the Act and the regulations and rehabilitation standards, please contact the Director of Mine Rehabilitation, a Resident Geologist or the Mining Recorder office nearest you.

Three Important Goals

The regulations contained in Part 7 of the *Mining Act* require the closure of all new and existing mining operations in a manner which achieves three important goals:

- 1) Ensuring public safety. Because people work and play in Ontario's outdoor areas the physical hazards created by mining (open pits or shafts) must be minimized.
- 2) Mining is a temporary use of the land. When a company concludes operations environmental protection and rehabilitation which minimizes further disturbance of the land, must become a priority. Closure plans must therefor address such concerns as acid-generating mine waste, tailings ponds and dams and the treatment of any chemical wastes or byproducts.
- 3) Mining is also only one use of a land. That's why closure plans need to identify other acceptable post mining land use, such as forestry, farming, recreation, housing or reuse of the existing buildings or lands. Closure plans must focus on the planned reuse of the land, which might for example, involve the eventual dismantling or the renovation of mills and head frames.

Rehabilitation Requirements

Mining is a dynamic process that can be divided into four distinct stages:

1) **exploration** 2) **advanced exploration and development** 3) **mine production** and 4) **mine closure**. The regulations in Part 7 affect activities in stages 2, 3 and 4.

- 1) Because most grassroots exploration such as line cutting, geotechnical surveys, drilling and stripping of small areas cause relatively minor surface disturbance, Part 7 does not apply to this stage. However, some of these activities when carried out on mining claims may require a work permit issued by the Ministry of Natural Resources (MNR).
- 2a) Part 7 does apply when a project moves into advanced exploration, which is defined as:
 - a) underground work, including the excavation of exploratory shafts, adits and declines;
 - b) the extraction of material in excess of 500 tonnes;
 - c) the installation of a mill for test purposes;

- d) the stripping of over 10,000 square metres of overburden on a mining lease or patent;
- e) the removal of more than 10,000 cubic metres of soil or rock materials; or
- f) some stripping operations within 100 metres of a shoreline.

Anyone wishing to undertake advanced exploration work must submit written notice (as described in the regulations) 30 days prior to beginning the work to the Director of Rehabilitation of the Ministry of Northern Development and Mines (MNDM). Based on the information contained in the notice, the Director will then determine whether public notice, or a closure plan - or both - are required.

If it is determined that public notice and/or a closure plan is required, additional delays may occur. These delays can be minimized by good planning - for instance by early consultation with the public about the project, by addressing rehabilitation issues at the time notice is given to the Director and by submitting notice well ahead of the expected start of exploration work.

2b) Before your mine can commence or recommence production, the Part 7 regulations require that:

- a) notification be given to the Director of Mine Rehabilitation that you have made a production decision, with full details of the project;
- b) notification be given to any affected public of your intent; and
- c) a closure plan, including financial assurance be submitted and accepted by the Director.

Financially assured closure plans must be submitted and accepted for any project determined by the Director to be abandoned as well as for existing operations that are producing or temporarily suspended when the regulations came into force (June 1991).

- 3) During advanced exploration and mine production, you are required to submit an annual report which indicates any changes to the project, the expected life of the mine and the projected rehabilitation work. This would include rehabilitation work carried out over the past year and proposed for the coming year as well as any significant changes in your operations. You are encouraged to make site rehabilitation an ongoing process. This can earn public approval while reducing the level of rehabilitation activity needed when closure eventually occurs.
- 4) The Ministry can assist your company in the implementation of your closure plan and, where required, will offer guidance in long-term site management, for example, in dealing with acidic drainage, or ensuring the integrity of tailings ponds and dams.

Public Notice

It's understandable that residents, cottagers, community and outdoor workers will want to participate in determining the scope and nature of mining activities in their area. That's why it makes good sense to communicate with the public about your plans and to deal with any objections early, when there is time to negotiate solutions to potential problems at minimal cost or disruption to your project.

Accordingly, the aim of the public notice regulations is to encourage communication with the public as early as possible. Public notice must be provided through newspaper advertising and a public meeting.

Closure Plans

The immediate benefit of developing a closure plan is that you identify, and are therefore better able to manage, closure issues early on, before a project begins. Moreover, a "Design For Closure" approach allows related costs to be factored into future operating budgets.

There is no "standard" closure plan. Each is unique, having been developed to meet the specific needs of the area in which the mine being closed is located. However, basic information requirements are standard in

every closure plan. Briefly, they include a before/after site assessment, an explanation of the intended work on the site, a description of the rehabilitation measures to be carried out during both the production and closure stages as well as identification of any long-term site management needs.

The following is a partial list of the major activities that would be outlined, as applicable, in a closure plan:

- a) capping, sealing and venting shafts, portals, declines, adits and other openings;
- b) dismantling buildings, pipe, hydro and rail lines;
- c) removal of all machinery, equipment, storage tanks and any materials resulting from any dismantling;
- d) removal or disposal of all chemical, petroleum or waste materials;
- f) stabilizing and securing dams or other control structures and surface mine openings; and
- g) revegetating disturbed sites to the extent practicable.

The Ministry's Rehabilitation Inspectors will verify that closure procedures are carried out faithfully and effectively. A mine will be considered closed when it no longer poses a safety, health or pollution hazard to anyone who may visit or use the site at any time in the future.

Financial Assurance

An essential part of a closure plan is an estimate of the costs of closure from which the level of financial assurance needed can then be determined. This financial assurance is required so that in the event you are unable, for whatever reason, to complete the rehabilitation, its completion by others is not at public expense.

The types of assurances that are acceptable include cash, a letter of credit from a Schedule A bank, a bond from an approved guarantee company or other forms of security suitable to the Director.

You Should Also Know...

- 1) The requirement for a closure plan is mandatory for all new and existing mines. While there is no appeal from this requirement, you may appeal changes to your plan required by the Director.
- 2) You must notify the Director of any major expansions or alterations to the project. The closure plan may have to be modified accordingly.
- 3) The sections of your closure plan which deal with safety and financial issues must be assessed by qualified professionals (i.e., professional engineer, certified accountant), prior to submission to the Ministry.
- 4) Mineral Development Officers are available to assist you in planning for the expansion of existing mines, the development of new mining ventures or the revival of inactive or closed out mines, particularly in applying the Part 7 regulations as they relate to these activities.

REMEMBER

As concern for the quality of our environment continues to increase, so too will the public's expectations that mining companies be sensitive to environmental issues in all their activities. It is in your best interest to develop comprehensive closure plans which clearly demonstrate your commitment to responsible land stewardship.

Appendix

Ministry of Northern Development and Mines Offices

The following are the area offices of the Resident Geologists who provide plan input and review comments for MNDM's planning interests.

Beardmore/Geraldton District

Resident Geologist
Suite B002, 435 James Street South
Thunder Bay, Ontario P7E 6E3
Tel: (807) 475-1331 Fax: (807) 475-1112

Cobalt District

Resident Geologist
Box 230, Presley Street
Cobalt, Ontario P0J 1C0
Tel: (705) 679-8558 Fax: (705) 679-5584

Kenora District

Resident Geologist
Box 5200, 808 Robertson Street
Kenora, Ontario P9N 3X9
Tel: (807) 468-2813 Fax: (807) 468-2823

Kirkland District

Resident Geologist
4 Government Road East
Kirkland Lake, Ontario P2N 1A2
Tel: (705) 567-5242 Fax: (705) 567-5621

Porcupine District

Resident Geologist
60 Wilson Avenue
Timmins, Ontario P4N 2S7
Tel: (705) 360-8350 Fax: (705) 360-2001

Red Lake District

Resident Geologist
Ontario Government Building
Box 324, 227 Howey Street
Red Lake, Ontario P0V 2M0
Tel: (807) 727-3272 Fax: (807) 727-3553

Sault Ste. Marie District

Resident Geologist
60 Church Street
Sault Ste. Marie, Ontario P6A 3H3
Tel: (705) 945-6931 Fax: (705) 945-6934

Schreiber/Hemlo District

Resident Geologist
Suite B002, 435 James Street South
Thunder Bay, Ontario P7E 6E3
Tel: (807) 475-1331 Fax: (807) 475-1112

Sioux Lookout District

Resident Geologist
P.O. Box 3000, Queen and Fourth
Sioux Lookout, Ontario P8T 1C6
Tel: (807) 737-2037 Fax: (807) 737-172

Sudbury District

Resident Geologist
Floor B3, 933 Ramsey Lake Road
Sudbury, Ontario P3E 6B5
Tel: (705) 670-5721 Fax: (705) 670-5681

Southeastern Ontario District

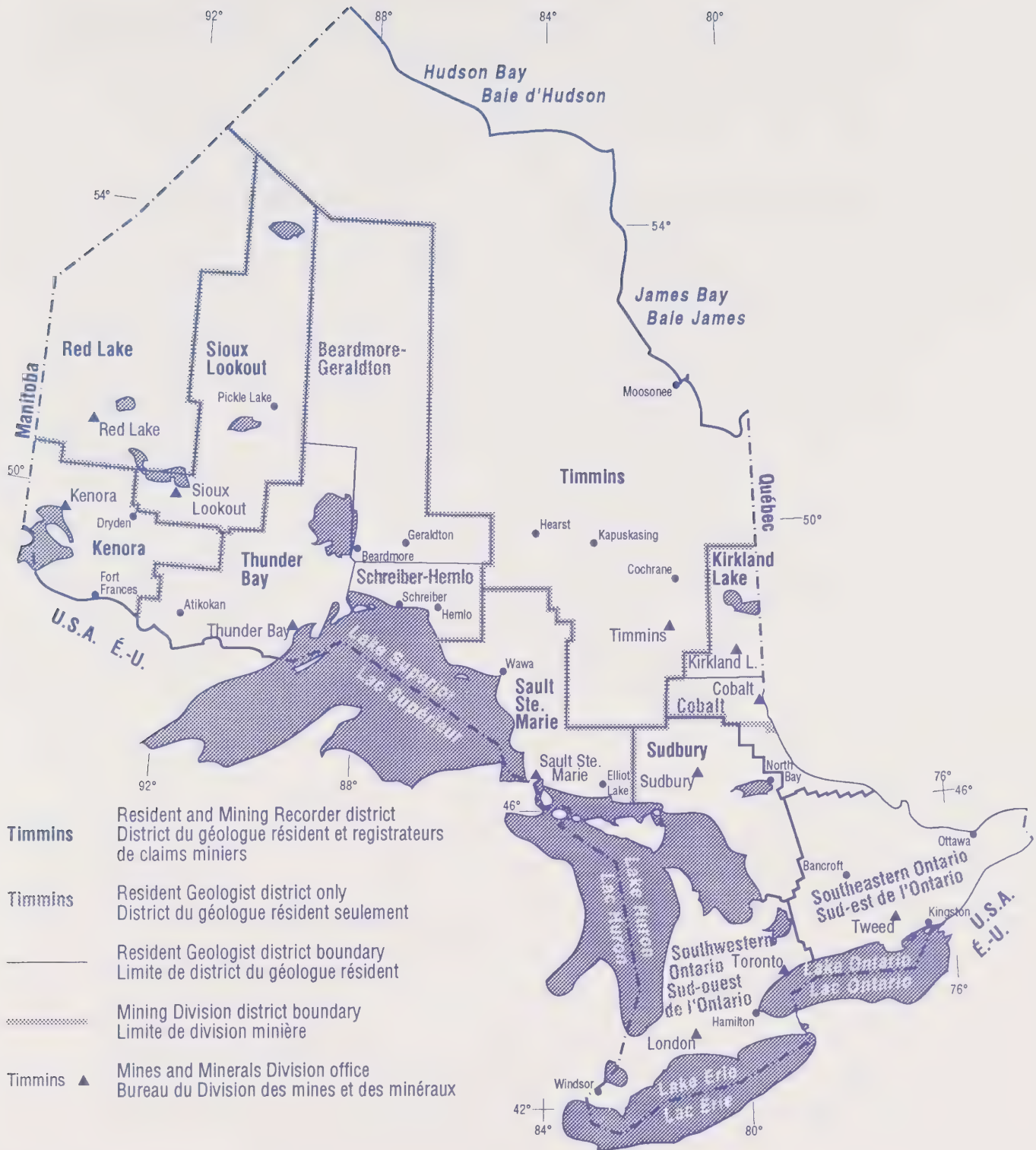
Resident Geologist
B.S. 43, Old Troy Road
Tweed, Ontario K0K 3J0
Tel: (613) 478-3161 Fax: (613) 478-2873

Southwestern Ontario District

Resident Geologist
667 Exeter Road
London, Ontario N6E 1L3
Tel: (519) 661-1656 Fax: (519) 661-1659

Thunder Bay District

Resident Geologist
Suite B002, 435 James Street South
Thunder Bay, Ontario P7E 6E3
Tel: (807) 475-1331 Fax: (807) 475-1112



Appendix

Mineral Exploration and Mining Sector Organizations

Prospectors and Developers Association of Canada

34 King Street East, 9th Floor
Toronto, Ontario M5C 2X8
Managing Director - Tony Andrews
Tel. 416-362-1969 Fax. 416-362-0101

Ontario Mineral Exploration Federation

c/o Inco Exploration and Technical Services Inc.
Hwy. 17 West
Copper Cliff, Ontario P0M 1N0
Chairman - John Perry
Tel. 705-682-8460 Fax. 705-682-8243

Northwestern Ontario Prospectors Association

103-79 North Court Street
Thunder Bay, Ontario P7A 4T7
President - Gary Clark
Tel. 807-345-2446 Fax. 807-345-1642

Sault and District Prospectors' Association

1434 Peoples Road
Sault Ste. Marie, Ontario P6A 3P7
President - Bob Burns
Tel. 705-946-4491 Fax. 705-945-6934

Porcupine Prospectors and Developers Association

Box 234
Timmins, Ontario P4N 7C9
President - Bruce Jeffery
Tel. 705-267-1188 Fax. 705-264-6080

Northern Prospectors Association

Box 535
Kirkland Lake, Ontario P2N 3J5
President - Mike Leahy
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MINERAL AGGREGATE, MINERAL AND PETROLEUM RESOURCE POLICIES

Petroleum Resources

Implementation Guideline for Policies F2.1, 2.2, 2.3, & 2.4

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements.

The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact the local District or Area office of the Ministry of Natural Resources.

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Importance of Petroleum Resources</i>	2
	<i>Oil and Gas</i>	2
	<i>Natural Gas Storage</i>	5
	<i>Salt Solution Mining (Brining)</i>	7
2	Policy Explanation and Implementation	9
2.1	<i>Policy Explanation</i>	10
	<i>Petroleum Resource Operations</i>	10
	<i>Petroleum Deposits and Areas of Potential Petroleum Resources</i>	11
	<i>Policy F2.1 Identification and Protection</i>	11
	<i>Policy F2.2 Development in Areas of Deposits and Potential Petroleum Resources</i>	12
	<i>Policy F2.3 Development on Lands Adjacent to Petroleum Operations and Deposits</i>	14
	<i>Policy F2.4 Rehabilitation of Petroleum Resource Lands</i>	15
2.2	<i>Implementation</i>	16
	<i>Policy F2.1 Identification and Protection</i>	16
	<i>Policy F2.2 Development in Areas of Deposits and Potential Petroleum Resources</i>	18
	<i>Policy F2.3 Development Adjacent to Petroleum Operations and Deposits</i>	19
	<i>Policy F2.4 Rehabilitation</i>	19

3 Sources of Information21

Appendix

A	<i>Glossary</i>	23
B	<i>Summary of Legislation Applicable to the Petroleum Industry</i>	25
C	<i>Excerpts From Ontario Regulation Issued Under the Petroleum Resources Act</i>	26

List of Figures

Figure 1	<i>Location of Sedimentary Basins and Petroleum Production Areas of Ontario</i>	3
Figure 2	<i>Location of Deposits of Petroleum Resources of Southern Ontario</i> ...	4
Figure 3	<i>Location of Designated Natural Gas Storage Areas of Southern Ontario</i>	6
Figure 4	<i>Location of Salt Operations and Deposits of Southern Ontario</i>	8

1

INTRODUCTION

This implementation guideline explains the petroleum resources component of goal F2 and policies F2.1 to 2.4, and deals with ensuring the long term availability of, and access to, petroleum resources (including oil, gas, salt solution mining and the storage of natural gas and other hydrocarbons in subsurface geological formations). Please note that a separate implementation guideline has been prepared to address the mineral resource component of policies F2.1 to 2.4.

The use of technical terms in this guideline has been kept to a minimum but where technical terms could not be avoided definitions have either been included in the text or in the Glossary (see Appendix A).

Petroleum exploration, production and storage are regulated by the Ministry of Natural Resources under the *Petroleum Resources Act* and Part VIII of the *Mining Act*. Natural gas storage areas are designated by the Ontario Energy Board under the *Ontario Energy Board Act*. Salt solution mining (brining) is regulated by the Ministry of Natural Resources under Part VIII of the *Mining Act*. These Acts, their associated regulations and any Ontario Energy Board decisions, prevail over municipal planning policies and zoning by-laws wherever there is a conflict among them. Petroleum resource operations are primarily a use of the subsurface, and are not considered a use of land subject to land use planning approvals. The impacts on the surface lands are limited to the area immediately surrounding the operations themselves.

When there is a need to integrate petroleum resource operations, deposits and potential resource areas with land use planning and development, municipalities are encouraged to rely upon provincial petroleum regulations and established industry standards, rather than establishing new standards that may be in conflict with the relevant petroleum or mining legislation. This strategy will promote consistency as well as proper regulation and compliance and will prevent confusion for the general public and the petroleum resource industries.

Other than production equipment, gathering and delivery systems and associated facilities, all of which are part of petroleum operations, municipalities may choose to include ancillary operations such as refineries and petrochemical industries and their associated facilities as components of the Economic, Community Development and Infrastructure Policies (see goal B, policy B4).

The planning process provides a proactive approach to ensure the intent of goal F2 can be adequately met. For example, if exploration, drilling and production may generally proceed subject to the existing legislative regulatory mechanisms (such as provided under the *Petroleum*

Resources Act, the *Mining Act*, the *Ontario Energy Board Act*, the *Environmental Protection Act* or the *Federal Fisheries Act*) and encroachment of incompatible development is prevented in the vicinity of petroleum resource operations and deposits, the intent of policies under F2 will be met.

1.1

Importance of Petroleum Resources

Petroleum resources and related operations and industries, including salt solution mining and subsurface natural gas and hydrocarbon storage facilities, are considered important for the social and economic well-being of the people of Ontario. It is the intent of the petroleum related policies that all areas of Ontario possessing petroleum resource deposits and subsurface storage facilities should:

- share responsibility for contributing to Ontario's future supplies of petroleum resources;
- ensure that these resources are available for extraction and processing; and
- ensure resource availability to contribute to the needs of the consumers and industries of Ontario at a reasonable cost.

Our supplies of oil, natural gas, salt derived from solution mining (brining), subsurface storage caverns and subsurface natural gas reservoirs are essential components of both the provincial energy and industrial needs, and strategically important to the overall economic development of the province. It is important that these resources be identified, protected, efficiently developed and wisely used.

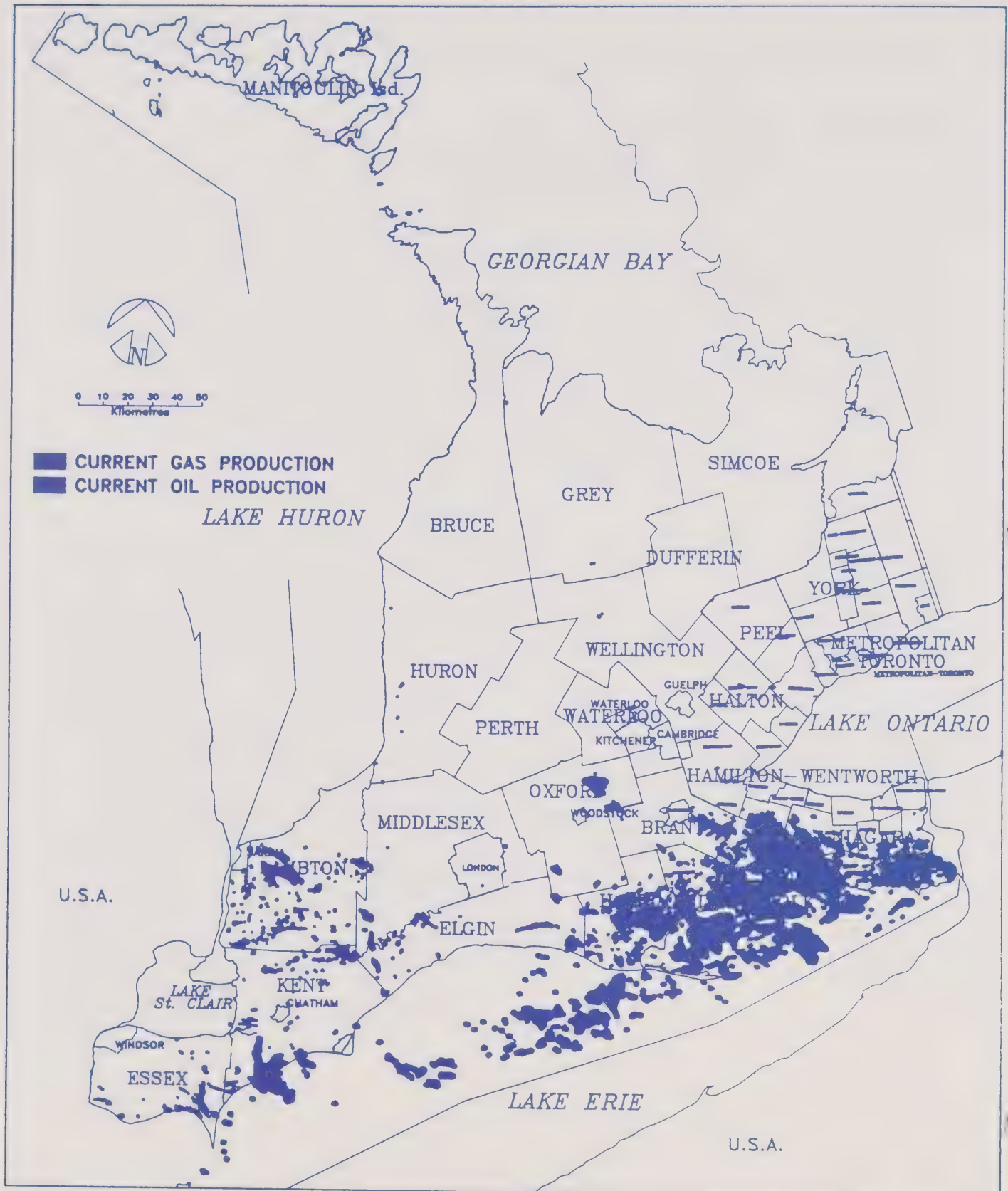
Oil and Gas

All of the oil and gas being produced in the world has been found in geological structures called sedimentary basins. There are three areas of Ontario underlain by sedimentary basins (**Figure 1**). Significant deposits of oil and gas have been discovered in the southwestern Ontario basin. Commercial deposits of oil and gas are at present not known to occur in the other basin areas. Oil and gas are trapped in porous rocks deep within the subsurface of southwestern Ontario. Deposits of oil and gas are known as "pools" or "reservoirs". The locations of known pools are summarized in **Figure 2** and identified on the Oil and Gas Pools and Pipelines of Southwestern Ontario map available from the Ministry of Natural Resources or the Ontario Petroleum Institute (See Sources of Information, section 3).

Figure 1: Location of Sedimentary Basins and Petroleum Production Areas of Ontario



Figure 2: Location of Deposits of Petroleum Resources of Southern Ontario



The North American petroleum resource industry began in Oil Springs, Ontario, in 1858. Ontario's petroleum production industry is now comprised of over 400 licensed companies or private individuals, employing over 3,500 people directly and indirectly. Oil and gas are produced from more than 2,200 active Ontario wells ranging in depths from 100 metres to 1,100 metres. These wells supply approximately 1% of Ontario's oil and 3% of Ontario's annual natural gas consumption, with an annual production value of more than \$85 million, based on the well head price. In response to a growing demand for oil and natural gas, there will be a continuing need for oil and natural gas exploration and production in Ontario.

Natural Gas Storage

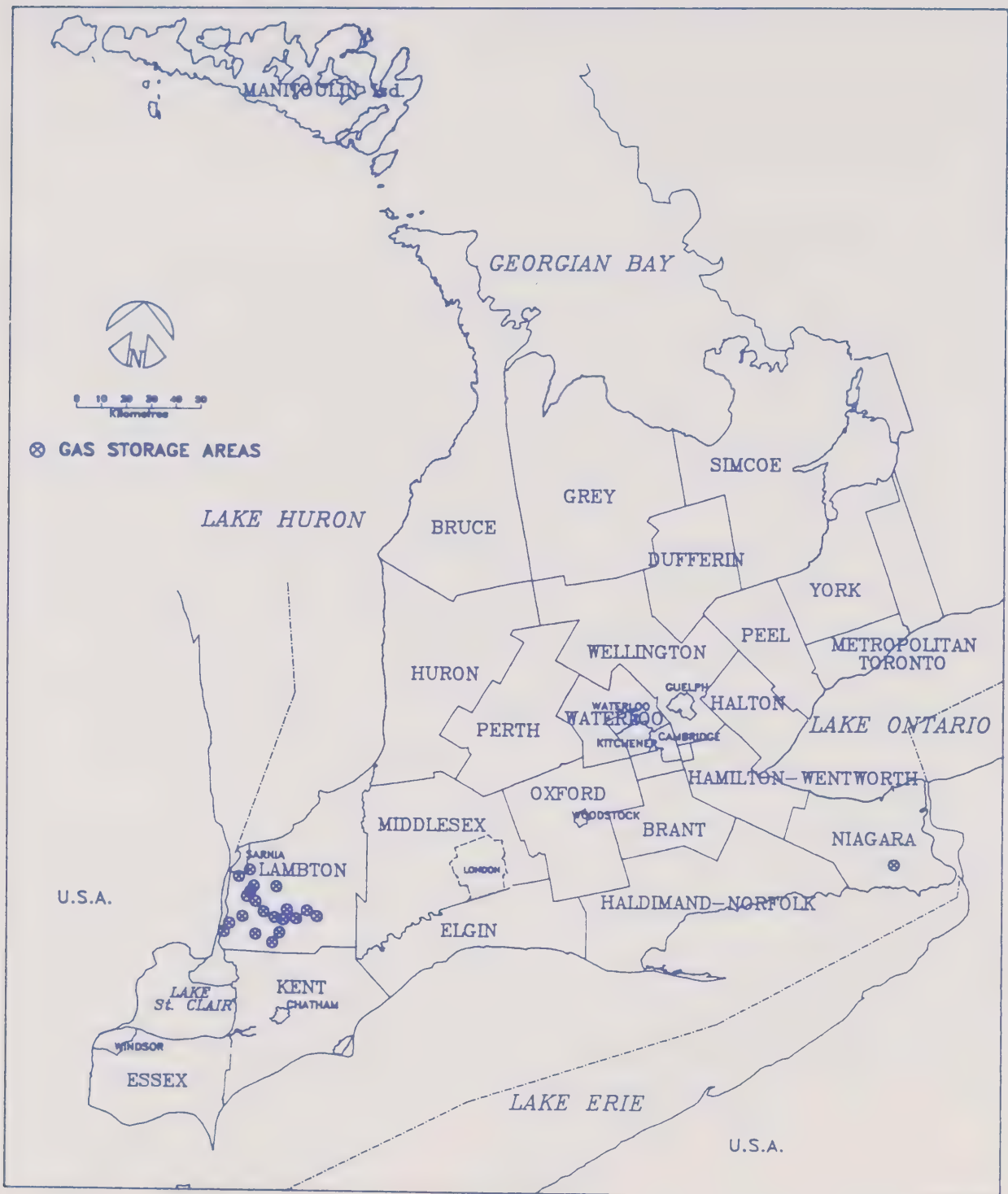
There are presently 22 natural gas pools in southwestern Ontario which have been designated as natural gas storage areas. This storage occurs in these depleted pools at depths between 600 and 700 metres. The combined storage capacity of the natural gas storage industry currently exceeds 5.8 billion cubic metres (203 billion cubic feet). Twenty-one of these storage areas are in Lambton County, and one is located in the Niagara Peninsula (**Figure 3**).

Natural gas storage ensures an adequate supply of natural gas to meet periods of peak demand, primarily during the winter heating season. The pipelines, which deliver natural gas from the producers in western Canada to the consumers in Ontario, lack the capacity to meet Ontario's peak daily wintertime needs. Natural gas is purchased at reduced cost during the summer months, transported through large diameter pipelines to Ontario and stored in the designated gas storage areas. When required, the stored gas is brought back to the surface and distributed to residential, commercial and industrial customers throughout the province.

There are over 2.3 million households that depend on natural gas for heating and there are approximately 200,000 commercial and industrial natural gas customers. The storage of natural gas, aside from assuring an adequate supply, reduces the cost of natural gas to Ontario consumers by approximately 12%.

Proposals for designation of new areas for natural gas storage include consultation with affected landowners and municipalities and a careful scrutiny by the Ontario Energy Board to evaluate and take into account any existing or potential development conflicts.

Figure 3: Location of Designated Natural Gas Storage Areas of Southern Ontario



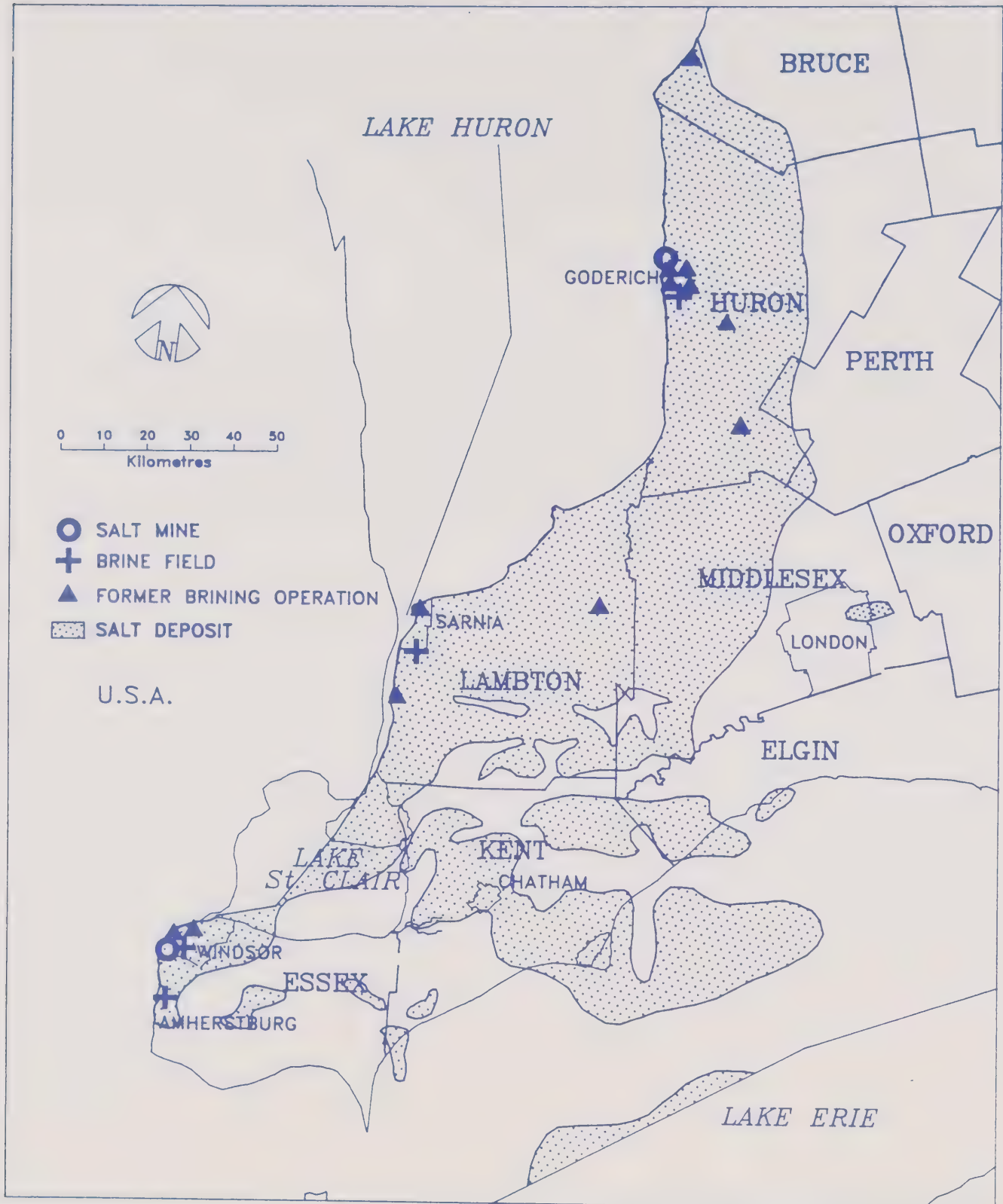
Salt Solution Mining (Brining)

Thick layers of salt occur approximately 300 to 600 metres underground beneath Essex, Kent, Lambton, Elgin, Middlesex and Huron Counties (**Figure 4**). Solution mining of this salt produces all of Ontario's table salt, plus a variety of essential chemicals including calcium chloride, sodium hydroxide, chlorine, and many others. These chemicals are essential ingredients in the production of pulp and paper, fertilizer, petrochemical products, glass, plastics and for use in other manufacturing industries. Thus, the salt solution mining industry supports many thousands of jobs and is strategically important to Ontario's economy. The development of new salt solution mining operations are carefully evaluated under the *Mining Act* to take into account any existing or potential land use conflicts.

Hydrocarbon Storage in Salt Caverns

Salt caverns produced by salt solution mining can later be utilized for the efficient, safe and economical subsurface storage of various hydrocarbon products. Hydrocarbons stored in salt caverns in Ontario include natural gas, methane, ethane, propane, butane and other hydrocarbons by themselves or in mixtures. For approximately forty years, these hydrocarbon products have been safely stored in solution-mined caverns located about 500 metres below the earth's surface in the Sarnia and Windsor areas. There are presently over 70 such storage caverns, with a storage capacity of over 17 million barrels.

Figure 4: Location of Salt Operations and Deposits of Southern Ontario



2

POLICY

Explanation and Implementation

Goal F2 of the policy statements addresses mineral and petroleum resources policies, as follows:

"To protect *mineral and petroleum resource operations*, *deposits* of minerals and petroleum resources, and areas of *potential mineral and petroleum resources* for resource use."

Goal F2 addresses the protection of petroleum resources in terms of operations, deposits and potential resources. These terms are defined in the Comprehensive Set of Policy Statements as follows:

(Mineral and) Petroleum resource operations: means oil, gas and brine wells and associated facilities, oil field brine disposal wells and associated facilities, and facilities for the underground storage of natural gas and other hydrocarbons.

Deposits of petroleum resources: include oil, gas, or brine resources which have been identified through exploration and verified by preliminary drilling or other forms of investigation and may include sites of former operations where resources are still present.

Potential (mineral and) petroleum resources: means areas favourable to the discovery of deposits of mineral or petroleum resources due to favourable geology, the presence of known deposits or other technical evidence.

The Comprehensive Set of Policy Statements also contains four definitions for 'development'. For the Petroleum Resources Policies (Policies F2.1 to 2.4), 'development₃' applies:

"Development₃ means the construction, erection or placing of a building or structure of any kind; or the making of an addition or alteration to a building or structure that has the effect of increasing the size or usability thereof; and includes such related activities as site grading and the placing or dumping of fill."

In the context of policies F2.1 to 2.4, incompatible development should not be interpreted to include development associated with new or existing petroleum resource operations or the ancillary industries or facilities.

2.1

Policy Explanation

Petroleum Resource Operations

Petroleum resource operations and associated facilities include producing wells, oil field brine disposal wells, secondary recovery wells, gathering systems (pipelines connecting individual well heads to one or more central collection points or facilities), oil-gas-water separators, gas dehydration facilities, battery tanks (i.e., interim storage tanks for oil either at the well head or at central collection points), on-site compressor stations, fresh water injection and brine production wells, interim brine storage tanks, gas delivery pipelines and gas meter sites.

Natural gas and oil wells and associated facilities require small land areas (a hectare or less), are carefully regulated by the Ministry of Natural Resources and rarely pose impacts or constraints on nearby land uses. These operations are generally located in rural areas, but have historically operated safely and with only minor inconvenience to adjacent landowners in most land use designations including urban and residential developments. Most brine production and hydrocarbon storage is situated close to or immediately beneath the sites of petrochemical or salt industries.

Salt solution mining (brining) involves the injection of water into the salt formation to form a brine solution which is pumped to the surface. The brine may be used directly in manufacturing chemicals or other products, or it may be evaporated to remove water to produce salt products such as table salt. Salt solution mining (brining) operations are limited to the southwestern part of the province as depicted in Figure 4.

Some underground caverns resulting from salt solution mining operations may be converted for hydrocarbon storage. Those caverns with a significant potential for conversion are an

important resource and should be considered for identification and protection, the same as other petroleum resources.

Location of all wells in accordance with the Petroleum Resources Act or the Mining Act are shown on Well Locations Maps. These maps, together with other information, are available from the Ministry of Natural Resources (see Sources of Information, section 3).

Petroleum Deposits and Areas of Potential Petroleum Resources

Most of Ontario's known petroleum resource deposits are located in southwestern Ontario as shown in Figure 2. Known deposits ("pools") of natural gas and oil are identified on the Oil and Gas Pools and Pipelines of Southwestern Ontario map (at scales of 1:250,000 or 1:375,000) and on Ontario Petroleum Well Location Maps (at various scales between 1:50,000 and 1:10,000). Copies of these maps are available by contacting the Ministry of Natural Resources or the Ontario Petroleum Institute (see Sources of Information, section 3).

Natural gas and oil deposits are identified through extensive exploration efforts, including geological mapping, geophysical testing and exploratory drilling. Known deposits would typically contain active producing, suspended, capped or plugged wells.

Areas of potential petroleum resources include all the remaining areas (not identified as operations or deposits) within the three sedimentary basins in Ontario (Figure 1). Areas with potential for brine/salt resources are less extensive than for petroleum, and are limited to the southwestern part of the province as depicted in Figure 4.

Policy F2.1 Identification and Protection

Policy F2.1 states that:

"Mineral and petroleum resource operations, deposits and areas of potential mineral and petroleum resources will be identified for resource use and protected from incompatible development."

Resource Operations: It is the intent of this policy that municipalities and other planning authorities, in consultation with the Ministry of Natural Resources and other knowledgeable sources of information, develop and implement policies to protect existing operations from encroachment by incompatible development. To ensure sufficient room for access and

maintenance purposes and to provide for public safety, some physical separation of development from petroleum resource operations should be maintained. The Ministry of Natural Resources is responsible for ensuring that any new drilling and petroleum production activities are set back from development (see Appendix C, Summary of Regulations under the *Petroleum Resources Act*), and that wells are spaced apart to optimize resource extraction.

Deposits: It is the intent of this policy that petroleum deposits be identified in the municipal or other land use planning exercises and that incompatible development in or adjacent to these deposits does not compromise exploration and possible production from these deposits. Proponents of development in or adjacent to deposits should consider any Ontario Energy Board compulsory pooling or unitization orders that may apply to petroleum deposits. There should be continued access to these areas for exploration, drilling and petroleum production in most land use designations and zoning categories except as may be limited by the Regulations under the *Petroleum Resources Act* and other regulatory mechanisms of the province. Exploration and production activities that require land use approvals may be subject to the other policies contained in the Comprehensive Set of Policies.

Areas of Potential Petroleum Resources: It is the intent of this policy that as much of these areas as is reasonably possible, in the context of other land use planning objectives, remain accessible for exploration, testing and future petroleum resource production where new deposits are discovered.

Policy F2.2 Development in Areas of Deposits and Potential Petroleum Resources

Policy F2.2 states that:

"In areas of *deposits* and areas of *potential mineral and petroleum resources*, *development*, that precludes or hinders future access to and use of these resources will only be permitted if:

- (a) resource use is not feasible; and
- (b) existing or proposed uses serve a greater long-term public interest than does resource use."

Areas of Deposits: Within areas of deposits, there will be few instances when natural gas and oil production from a proven and tested deposit would not be feasible. For example, resource use might be considered not feasible where:

- access to a deposit has already been compromised by existing concentrated urban development;
- access to a deposit for exploration and drilling is technically not possible; or
- exploration, drilling and testing has demonstrated that the deposit cannot be developed.

Before a planning decision is made that could restrict future access to and/or resource use of a deposit, proponents of incompatible development must evaluate other options that could integrate the development with resource use or demonstrate that the proposal serves a greater long-term interest to the general public than would use of the petroleum resource.

Areas of Potential Petroleum Resources: The vast expanse of potential petroleum resources (the three sedimentary basins) in comparison to the average extent of development applications indicates this part of the policy would only apply where previously unknown deposits are discovered and require further evaluation, including exploration and drilling. Further investigation may be required to ensure that the most up-to-date information is being used and to ensure that access to newly discovered deposits of petroleum resources is not affected.

Areas of potential petroleum resources that have been drilled to depths beyond which petroleum resources are unlikely to be encountered, and which have not encountered any petroleum resources (e.g., are dry) may be considered prime targets for other development.

Policy F2.3 Development on Lands Adjacent to Petroleum Operations and Deposits

Policy F goes on to state under 2.3 that:

"Development₃ on lands adjacent to mineral and petroleum resource operations, or adjacent to areas of deposits will be permitted only if:

- (a) the development₃ would not preclude or hinder the continuation of existing operations; and*
- (b) the development₃ would not preclude the development of the resource; and*
- (c) issues of potential public health and safety and environmental protection are addressed."*

Lands Adjacent to Petroleum Resource Operations: Development on lands adjacent to natural gas, oil, salt solution mining or subsurface natural gas and other hydrocarbon storage operations should be planned so that petroleum resource operations are not negatively impacted. Usually, this is best achieved by limiting encroachment of incompatible development on adjacent lands.

There are two reasons for controlling the encroachment of development towards petroleum resource operations. One is a requirement for maintaining access and a limited amount of space surrounding the operations for periodic maintenance purposes, and the other is for ensuring public safety. Petroleum resource operations are bound by setback distance requirements found in the *Petroleum Resources Act* and Regulations (see Appendix C). There is a concern that encroachment into these setback areas by incompatible development, which is not bound by these regulations, may threaten or limit the viability of the petroleum operations. Encroachment by development may result in:

- local pressures for the suspension or abandonment of existing operations or deposits;

- a demand from the petroleum resource operator for the developer, the municipality and government to compensate the petroleum resource operator for losses if the operation has to be abandoned; or
- a potential loss of petroleum resources, contrary to the statement of provincial interest in petroleum resources, important to the province's social and economic well-being.

Municipalities are encouraged to consider planning policies that require development to observe the same setback distance requirements as are required of petroleum operations under the *Petroleum Resources Act*. Official plans may also contain policies that outline relevant local considerations that the exploration and petroleum industry may be encouraged to consider during the course of their operations.

Ancillary facilities, such as collection pipelines and facilities, are often located on lands adjacent to petroleum resource operations. Pipelines are constructed in adherence with the Ontario Energy Board Guidelines. The Ministry of Natural Resources recommends that petroleum resource developers consult with municipalities or other appropriate planning authorities regarding the locations of these facilities. To ensure that public health and safety are taken into account, ancillary operations may need to be separated from incompatible development and from environmentally sensitive or hazardous land.

Lands Adjacent to Petroleum Resource Deposits: Development should be planned so that options of access to known deposits across adjacent lands are retained for purposes of exploration and future production.

Policy F2.4 Rehabilitation of Petroleum Resource Lands

Under policy F2.4, it is advised that:

"Rehabilitation of mineral and petroleum resource lands will be required after extraction and other related activities have ceased."

When petroleum resource exploration and extraction activity, including salt solution mining or brine disposal, has permanently ceased, wells must be plugged according to the regulations under the *Petroleum Resources Act* and the land rehabilitated in a manner compatible with surrounding land uses.

2.2

Implementation

Policy F2.1 Identification and Protection

There is a need to maintain a separation between incompatible development and oil, gas and brine production sites, as well as hydrocarbon storage sites, for reasons of public health and safety and for operational maintenance requirements. The *Petroleum Resources Act* and regulations require petroleum resource operations to be set back from incompatible development for these same reasons (see Appendix C). In general, development should be planned to maintain access for petroleum and brine production and hydrocarbon storage purposes and to maintain access to known petroleum deposits. If these two planning constraints (separation distance and protection of access) are observed, then oil, gas and brine production and related activities can co-exist with most forms of development.

In the implementation of policy F2.1, the following points should be considered:

Identification:

(a) **Petroleum operations:** municipalities should consult with the Ministry of Natural Resources and other knowledgeable sources for information regarding the identification of all current petroleum resource, salt solution mining (brining), and natural gas and hydrocarbon storage operations. Information is available for:

- current petroleum resource and salt solution mining (brining) operations;
- locations of known producing, suspended, capped and plugged wells;
- location of gathering lines, battery tanks, salt caverns and associated uses; and
- location of hydrocarbon storage operations in salt caverns or depleted natural gas pools.

Petroleum resource operations and natural gas and hydrocarbon storage operations are primarily uses of the subsurface and are typically not uses subject to official plans and zoning by-laws.

- (b) **Petroleum deposits:** Municipalities should consult with the Ministry of Natural Resources, the Ministry of Northern Development and Mines, the Ontario Petroleum Institute and individual petroleum and brine producers to obtain up-to-date mapping of known deposits of oil, natural gas and salt deposits (suitable for solution mining or subsurface hydrocarbon storage). Use of this background information will assist municipalities in preparing policies that integrate protection of petroleum deposits with development.

Proponents of development must demonstrate for municipalities that the proposed development does not infringe upon any spacing unit order or regulations established under the *Petroleum Resources Act* or any Ontario Energy Board orders that may apply to particular petroleum deposits.

Protection:

- (a) Setbacks for development from petroleum resource operations should be established. Criteria for setbacks should be consistent with setbacks established under the *Petroleum Resources Act* Regulation O.R. 915 (see Appendix C) and as applied to petroleum resource operations. Municipalities could choose to permit lesser setbacks for specific circumstances if information is supplied to show safety and nuisance considerations and access and operational requirements are not compromised.
- (b) In areas of petroleum resource deposits and areas of potential petroleum resources, municipalities should adopt policies permitting petroleum resource exploration and production without requirements for planning amendments or zoning. Exploration and production is regulated by the Ministry of Natural Resources in accordance with the *Petroleum Resources Act* and the *Mining Act*. Official plans may also contain policies that outline relevant local considerations that the exploration and petroleum industry is encouraged to consider during the course of their operations.

Policy F2.2 Development in Areas of Deposits and Potential Petroleum Resources

In the implementation of policy F2.2 (a), the following points should be considered in determining if resource use is feasible:

- (a) consultation with the Ministry of Natural Resources, the Ontario Petroleum Institute and individual petroleum producers, to determine whether or not there are recoverable reserves of petroleum resources present;
- (b) technological advances in petroleum exploration and production methods (e.g., horizontal drilling) that may allow resource access and production in situations where access and production may have been considered impossible historically. It is also possible that modifications to development proposals could allow for development to proceed while ensuring access for exploration and possible future petroleum resource operations.
- (c) the strategic importance of solution mining, hydrocarbon storage in salt caverns and natural gas storage operations to Ontario's economy, whenever development proposals near salt deposits, existing underground caverns or former petroleum pools are considered, particularly if new salt solution mining, hydrocarbon or natural gas storage operations may be also under consideration.

Regarding the implementation of policy F2.2 b), where development could preclude resource use, proponents of development must demonstrate for municipalities that the proposed development does not infringe upon any spacing unit established under the *Petroleum Resources Act* or upon any Ontario Energy Board orders that may apply to petroleum deposits. Otherwise, the proponent must demonstrate that their development serves a longer term public need than would use of the petroleum resources associated with the affected deposits.

Proponents should be required to consider the following:

- Are any spacing unit regulations or Ontario Energy Board orders affected and, if so, how? Can the regulations or orders be reviewed and amended?
- Is there an opportunity for sequential use by allowing resource use first?
- Can the proposed development and resource use coexist?

- Can the proposed development be altered, redesigned or relocated to accommodate access to the deposit for resource use?
- Is there enough information available to answer the questions above, or is further resource analysis required before a municipality can consider the proposed development?

Policy F2.3 Development Adjacent to Petroleum Operations and Deposits

In the implementation of policy F2.3, the following points should be considered:

- (a) enhancement of public safety and resource protection by controlling the encroachment of incompatible development upon petroleum resource operations and areas of deposits, by adopting setback requirements for development that are the same as those listed in the regulations under the *Petroleum Resources Act* (please see Appendix C) for petroleum resource and salt solution mining operations.
- (b) an evaluation of the impacts that a development proposal might have on petroleum resource operations and their associated activities if lesser setbacks are being considered. If a municipality chooses to permit lesser setbacks for specific circumstances, then this decision should be supported by information to show that safety and nuisance considerations, and access and operational requirements for petroleum exploration and production, will not be compromised by encroachment.
- (c) ensure consultation with the Ministry of Natural Resources, local petroleum/brine operators, and with industry representative associations, especially if a development proposal may affect a large area adjacent to petroleum operations or deposits or if lesser setbacks are being considered.
- (d) reference to Ontario Energy Board spacing, or unitization regulations, or orders.

Policy F2.4 Rehabilitation

In the implementation of policy F2.4 on Rehabilitation, the municipalities may indicate in official plan policies that where petroleum operations, including salt solution mining and underground storage activities could be discontinued, rehabilitation of petroleum resource operations is

required by the Ministry of Natural Resources according to regulations under the *Petroleum Resources Act* and Part VIII of the *Mining Act*.

Required rehabilitation includes proper plugging of wells, site clean-up and rehabilitation of the land in a manner compatible with surrounding land uses before subsequent development is allowed to proceed. Rehabilitation is the responsibility of the petroleum resource operator, or whoever has acquired the petroleum or mining rights to the property, or the landowner if an operator can not be identified.

3

SOURCES OF INFORMATION

- For:**
- Ontario Petroleum Well Records
 - *Petroleum Resources Act* and Ontario Regulation 915
 - Petroleum operations and hazard inspection services
 - Location of hydrocarbon and natural gas storage operations and facilities
 - Assistance with evaluation of potential conflicts between development and petroleum resource operations

Contact: Ontario Ministry of Natural Resources Area Offices:
 1023 Richmond Street West, Chatham, Ontario N7M 5J5
 353 Talbot Street West, Aylmer, Ontario N5H 2S8
 P.O. Box 706, Highway 3, 548 Queensway West, Simcoe, Ontario N3Y 4T2

- For:**
- Ontario Petroleum Well Records
 - Ontario Well Location Maps
 - CSA Standard Z 341-93 - Storage of Hydrocarbons in Underground Formations
 - Petroleum geological and engineering information

Contact: Ontario Ministry of Natural Resources Petroleum Resources Centre
 P.O. Box 5463, 659 Exeter Road, London, Ontario N6A 4L6

- For:**
- Ontario Geological Survey Reports
 - Information on mineral operations, mineral deposits and areas of mineral potential

Contact: Ministry of Northern Development and Mines
 Resident Geologist for Southwestern Ontario
 P.O. Box 5463, 659 Exeter Road, London, Ontario N6A 4L6

For: Pool and Pipeline Map (1:250,000 scale)

Contact: Ontario Petroleum Institute, London, Ontario

Other sources of information include the Ontario Energy Board, the Ministry of Consumer and Commercial Relations, the Ontario Mining Association, other privately-operated petroleum industry databases and files, and municipal records.

Appendix

Glossary

Battery:

means storage facilities receiving production from a well or wells. In practice, a battery is considered to be a system or arrangement of tanks, pumps or other equipment constructed to receive produced fluids (e.g., oil, gas, oilfield brine, etc.) from one or more wells prior to delivery to a purchaser or other disposition, or to store fluids prior to injection into the oil pool or brine disposal formation, and may include equipment for separating, measuring or storing the production or injection fluids.

Battery tanks:

means primary, interim storage tanks for oil, oilfield brine, other liquid products, by-products or treatment chemicals, which are located at large or small collection facilities (i.e., batteries, satellites, an operator's own compressor stations, disposal wells, secondary recovery facilities, etc.) on the operator's side of the point where custody of oil, gas or other products is transferred to a purchaser.

Brine well:

means a hole or opening in the ground for use in brining. For the purpose of implementing this guideline, "brine well" means a well which is utilized for the purpose of solution mining of salt.

Brining:

means the extraction of salt in solution by any method. See also "Salt solution mining (brining)".

Capped wells:

means wells which have potential for production or other operations, but which have been suspended to await further field development (e.g., the building of pipeline gathering systems, the building of processing facilities, better economic conditions or other reasons). See also "Suspended wells".

Designated natural gas storage area:

means an area of land overlying a reservoir which the Ontario Energy Board has, according to sections 20 to 23 of the *Ontario Energy Board Act*, designated for the injection, storage and removal of natural gas.

Facilities associated with petroleum resource operations/wells :

means the various types of petroleum resource wells; pipelines connecting individual wells to an operator's central collection or injection facilities; pipelines connecting the collection or injection facilities to points where custody of oil, gas or other products is transferred to purchasers, refiners or distribution companies; interim storage tanks at the wells or facility sites, metering stations, treatment facilities; and safety equipment.

Gas:

means natural gas.

Gathering lines:

means generally small diameter pipelines which collect oil, gas or brine from well heads, and transport those fluids to batteries or other primary storage and/or treatment facilities, and then from there to wherever custody of oil, gas or other products is transferred from the operator to a purchaser.

Horizontal drilling :

means a well drilling technique by which a well is drilled in a curve, from a vertical or near-vertical beginning, to a horizontal orientation in the subsurface, and then along the horizontal orientation until it reaches its subsurface target.

Licence:

means a licence issued under the *Petroleum Resources Act*.

Oil:

means crude oil, and includes any hydrocarbon that can be recovered in liquid form from a pool through a well.

Oilfield brine disposal well:

means a well which is utilized for injection of oilfield brine into a suitable porous and permeable subsurface formation. Oilfield brine is commonly produced with oil and gas and disposal wells are considered to be an integral part of petroleum resource operations.

Ontario Energy Board pooling order:

means an order issued by the Ontario Energy Board, according to the *Ontario Energy Board Act*, which requires the joining of various oil and gas interests within a spacing unit for the purposes of drilling or producing from a petroleum resources-related well.

Operator means:

- 1) when used in respect of any operations carried on for the purpose of drilling or plugging a well, a person who has the right as lessee, sub-lessee, assignee or owner to carry on the drilling or plugging operations, and the person who has the control or management of such operations; and
- 2) when used in respect of a well, a person who has the right as lessee, sub-lessee, assignee or owner to the production from the well, and the person who has the control and management thereof, provided that such person either drilled or produced (from) the well.

Permit:

means,

- 1) a permit issued under the *Petroleum Resources Act*; or
- 2) when used in respect of brine wells or salt solution mining (brining), a permit issued under Part VIII of the *Mining Act*.

Pool:

means an underground accumulation of oil or gas or both, separated or appearing to be separated from any other such underground accumulation. These accumulations occur within porous and permeable sedimentary rock formations. Pools do not naturally occur in the form of subsurface caverns or lakes. In this guideline, the term “reservoir” is considered equivalent to the term “pool”.

Pooling:

means the joining or combining of all the various (oil and gas) interests within a spacing unit for the purpose of drilling and subsequently producing (from) a well.

Recoverable reserves:

means the portion of the original subsurface quantity of oil or gas in a pool which will be produced to the surface by existing technology under prevailing economic conditions. Recoverable reserves are expressed as a volume or, alternatively, as a percentage of the estimated oil or gas volume originally in place before production started.

Rehabilitate:

means after extraction, to treat land so that the use or condition of the land is restored to its former use or condition, or is changed to another use or condition in accordance with applicable legislation. For the purpose of implementing this guideline, rehabilitation also includes plugging of wells, site clean-up and rehabilitation of the land in a manner compatible with surrounding land uses before subsequent development is allowed to proceed.

Reservoir: see “Pool”**Salt solution mining (brining):**

means a mining process in which fluid is injected into a subsurface rock salt formation through a well, dissolves the rock salt to form a concentrated brine and is then extracted. The process results in the formation of a cavern in the rock salt formation.

Secondary recovery well

means a well, integral to a petroleum resource operation, which is utilized for the injection of fresh water, oilfield brine, gases or other fluids into the oil pool, to increase the recovery of oil from the pool to a level exceeding that which could be recovered by primary flowing or pumping methods.

Spacing unit order:

means a pool-specific Ministerial order, established under the *Petroleum Resources Act*, which prescribes the number of wells to be drilled into a pool and the locations of those wells, usually on a basis of one well per 6.25, 25, 50 or more acres. The requirements to be met for spacing are found in Ontario Regulation 915, RRO 1990, under the *Petroleum Resources Act*.

Suspended wells:

means wells which were formerly active (drilled for petroleum resources-related operations) at which drilling, production, injection, disposal or other operations have been stopped. Generally, the operators and/or owners of suspended wells are known to the respective regulatory agency. Includes capped wells.

Appendix

Summary of Legislation Applicable to the Petroleum Industry

Ontario Energy Board Act

The Ontario Energy Board (OEB) has authority to compulsorily pool oil/gas interests within spacing units established by MNR and to compulsorily unitize oil/gas interests within oil/gas pools. The OEB reports to the Lieutenant Governor in Council on the designation of gas storage areas and has the authority to approve the injection, storage and withdrawal of gas from storage pools. Applications for drilling permits within designated storage areas are referred to the OEB.

Energy Act

Provides technical controls over downstream oil and gas pipeline systems.

Petroleum Resources Act

Regulates the drilling, exploration, production and underground storage of oil and gas. Requires that upon cessation of operations, wells should be plugged and well sites rehabilitated.

Environmental Protection Act

Regulates emission or discharge of contaminants into the environment. Regulates operation of waste management systems. Indicates standards for environmental quality components.

Ontario Water Resources Act

Regulates fresh water quality and use.

Fisheries Act

Requires protecting and maintaining fish habitat and movement of fish.

Mining Act

Regulates exploration and mining operations, including the issuing of patents or leases for mining claims. Provides for rehabilitation of areas affected by mining activities.

Appendix

Exerpts from Ontario Regulation 915 Issued Under the Petroleum Resources Act

Restricted Drilling Areas

9. No person shall bore or drill an exploratory or development well,
- (a) within 150 feet of any high voltage power line, road allowance, railway, transmission pipeline or other utility right of way;
 - (b) within 250 feet of any dwelling, commercial or industrial building, school, church or place of public assembly;
 - (c) on land, within 350 feet of the shoreline; or
 - (d) in water-covered areas, within one-half mile of the shoreline or within one-half mile of the International Boundary,

except where special circumstances exist that in the opinion of the Minister justify the drilling of a well within a lesser distance of any of the above-mentioned limits and a permit to do so has been granted.

Other Wells

15. The location of a well shall be subject to approval by the Minister where a well is not classified as an exploratory well or a development well and is drilled,
- (a) for the storage of hydrocarbons;
 - (b) for the secondary recovery of oil;
 - (c) for the production of brine;
 - (d) for the testing of subsurface structures;
 - (e) for the injection of fluid;
 - (f) for the disposal of mineral waters; and
 - (g) for observation.

Production

34. The operator of a well shall ensure that ...
- (d) oil storage tanks are located at least 50 feet from any high voltage power line, road allowance, railway, transmission pipe line or other utility right-of-way and at least 250 feet from any dwelling, commercial or industrial building, school, church or place of public assembly ...
 - (f) all flare pits and ends of flare lines are so constructed and safeguarded that there is no hazard to property, crops or trees, and are located at least 75 feet from any high voltage power line, road allowance, railway, transmission pipe line or other utility right- of-way and at least 150 feet from any dwelling, commercial or industrial building, school, church or place of public assembly.

Note:

Some ministerial authorities referred to in the above may have been delegated to other ministry officials. These delegations are listed in the Ministry of Natural Resources Delegation of Authority Manual, 1993 (Queen's Printer), or its successors.

INTERPRETATION & IMPLEMENTATION

Interpretation and Implementation

Implementation Guideline for **Section G**

This implementation guideline has been prepared to assist in the understanding of the Comprehensive Set of Policy Statements, and to describe some approaches which have been determined to be consistent with the policies. The guideline is advisory only, and is not intended to add to or subtract from the policy statements. The policy statements provide direction on the province's interest in planning; the implementation guidelines provide information on policy background, explanation and implementation. This guideline should be read in conjunction with all of the policy statements in the Comprehensive Set, as well as with other implementation guidelines.

The guidelines identify possible implementation approaches for the policy statements that may be considered when decisions under the *Planning Act* are being made. The guidelines are not to

be rigidly applied. It is intended that there be reasonable flexibility in implementation, as long as decisions are consistent with the policy statements. Please note that some implementation guidelines identify other legislative requirements, outside the *Planning Act*, which must be followed as part of the planning approval process.

For further information on the content of this implementation guideline, or to send comments and suggestions for improving future editions, please contact:

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Interpretation and Implementation

1. Comprehensive Set of Policy Statements

Issued Under Section 3 of *Planning Act*

Section 3 of the *Planning Act* authorizes the Minister of Municipal Affairs, together with any other minister of the Crown to issue policy statements that have been approved by the Lieutenant Governor in Council. The Comprehensive Set of Policy Statements was issued by Cabinet, and came into effect, on March 1, 1995, the date the *Planning Act* provisions of the *Planning and Municipal Statute Law Amendment Act*, 1994 were proclaimed.

Includes Other Government Policy

Before the Comprehensive Set of Policy Statements came into effect in 1995, the province had adopted four policy statements under section 3 of the *Planning Act*. These policy statements, which are now reflected in the Comprehensive Set of Policy Statements, are the following:

- The Wetlands Policy Statement (1992) was slightly reformatted and included in goal A2. The policy did not change.
- The Floodplain Planning Policy Statement (1988) was summarized and included as policy 3.5 of goal A3. The policy did not change.
- The Land Use Planning for Housing Policy Statement (1989) was replaced by the policies of goal C.
- The Mineral Aggregate Resources Policy Statement (1986) was reformatted and included in goal F1. The policy did not change.

The four policy statements which existed before the Comprehensive Set of Policy Statements came into effect will continue to apply to decisions on applications which were made before the effective date of the Comprehensive Set of Policy Statements, and on certain related applications under the circumstances addressed in section G2. For more information regarding the applicability of these existing policies to applications in process on or before, or after, the effective date of the Comprehensive Set of Policy Statements, please refer to section G2 of the policy statements and to the related implementation guidelines.

There were other government positions, guidelines and policies that affected land use planning but that had not been adopted as policy statements. In some cases, these documents address matters of provincial interest, as specified in section 2 of the *Planning Act*; in others they

address matters which relate to land use planning but which are also addressed by legislation other than the *Planning Act*. To encourage the integration of all policies related to land use planning into one document, these positions, guidelines and policies were reviewed and, where appropriate, summarized in the Comprehensive Set of Policy Statements and the related implementation guidelines. These positions and guidelines will continue to apply to comments and decisions under the applicable legislation.

2. "Shall Be Consistent With"

The *Planning Act*, R.S.O. 1990 required that planning authorities "shall have regard to" policy statements under the Act. The Commission on Planning and Development Reform in Ontario recommended that the province set policy and transfer approval authority to municipalities. In support of this recommendation, the Commission recommended that the phrase "shall have regard to" be changed to "shall be consistent with". Section 3 of the Act, as now amended by the *Planning and Municipal Statute Law Amendment Act*, 1994 requires that decisions of planning authorities made under the *Planning Act*, or decisions under any other prescribed Act, "shall be consistent with" policy statements issued under section 3. Furthermore, the comments, submissions and advice of provincial ministries on such applications must also be consistent with the policy statements.

There was a wide range of interpretation and application of the phrase "shall have regard to". "Shall be consistent with" is a stronger phrase than "shall have regard to". It was chosen to ensure that policy statements are applied by all decision makers in making decisions on affected applications.

It is recognized that there is great diversity in local circumstances across the province - in population distribution, in economic activity, in growth pressures, in physical and natural conditions, and in the level of experience of decision makers in dealing with specific planning issues. The use of "shall be consistent with", when combined with the wording of the policies, permits practical and innovative approaches to the implementation of the various policies, and allows for the resolution of conflicts among policy statements as they apply to planning areas or individual sites.

The phrase "shall be consistent with", when combined with the wording of the policies, permits some flexibility in implementation of the policy statements, in order to allow for local interpretation. The phrase does not demand rigid compliance with the policy statements, but should ensure that provincial interests in planning remain an essential part of planning decision making, and that the policies are applied.

The phrase "shall be consistent with" is not defined in the *Planning Act* or in the Comprehensive Set of Policy Statements. Words that are not defined in legislation should be given their common or ordinary meaning. As an example, the Webster Dictionary defines the word "consistent" to mean "marked by agreement and concord, coexisting and showing no

noteworthy opposing, conflicting or contradictory qualities or trends". Other dictionaries include the concept of "in harmony with", "compatible with", "constant to the same principles as", or "not contradictory with".

The phrase "shall be consistent with" applies to policy statements. Other sections of the *Planning Act* use the term "conform" when referring to the relationship between a zoning by-law or a public work and an official plan; or "comply" when referring to legislation or regulations. "Conform" and "comply" mean "to form according to pattern, or "to act in accordance with". There is little flexibility in the terms "conform" and "comply".

Can be More Restrictive and Still be "Consistent"

Section G of the Comprehensive Set of Policy Statements states that:

"Nothing in these policies is intended to prevent planning authorities from going beyond the minimum standards established in any of the policies, unless doing so would conflict with any other policy statement."

This means that a municipality may decide, on its own initiative, to protect wetlands which are not provincially significant; or to include class 4 farmland in its agricultural designation; or to restrict severances in prime agricultural areas so that infilling lots or farm retirement lots are not permitted. However, in cases where the municipality is being more restrictive than the policy requires, care should be taken that this does not result in a conflict with any other policy. For example, a municipality should reconsider protecting a locally significant resource if to do so would preclude access to an identified mineral deposit or would require settlement area expansion into prime agricultural areas (provincially significant resource) instead.

3. Application of Policy Statements

Integration of Policy, Resolution of Conflicts

The Comprehensive Set of Policy Statements contains policies regarding a broad range of issues. These policies should be read together, and applied to each site or issue where they apply. No individual policy or resource should automatically take precedence over another. Decisions on planning applications must be consistent with all applicable policies. For example, development in the rural areas must be consistent with all of the applicable policies of goals A to F, not just with

the specific criteria of policy B10, which addresses development outside of settlement areas.

In integrating policies, the ordinary meaning of words should be considered. For example, a policy that indicates that "development will not be permitted in a..." does not conflict with a policy that states that "development may be permitted if...". Since all policies are to be read together, any prohibitions on development would be read with more permissive policies to determine whether decisions on specific land use designations and policies or planning applications are consistent with all applicable policy statements.

Integrating policies involves looking at a planning area and determining how all the applicable policies can be applied. However, being consistent with the policies does not mean that every policy must be applied on every site, or that the policies must be applied the same way in every area of the province. Some policies may need to be considered in the context of a planning area rather than in the context of site-specific development proposals. For example, policies relating to economic development or the provision of affordable housing are not intended to require development in features or areas where other policies would not permit development. This integrated approach means that the related implementation guidelines should also be read together.

Integration may involve developing innovative approaches in making decisions which are consistent with all applicable policies. In some cases, potentially competing land uses have been addressed through policy. For example, policy D2 would permit a waste disposal site in a prime agricultural area if it has been approved through an environmental assessment process. Similarly, policy D5 gives guidance regarding aggregate extraction below the water table in prime agricultural areas.

Comments and Decisions

The Comprehensive Set of Policy Statements has been issued under section 3 of the *Planning Act*. The policy statements apply to decisions under the *Planning Act* or other Acts specified by regulation. They also apply to comments, submissions or advice of provincial ministries and other government agencies under the *Planning Act*.

The activities of individual ministries in administering other legislation are not required to be consistent with policy statements under section 3 of the *Planning Act*. For example, in commenting to an approval authority on an official plan amendment for a site containing mineral aggregate resources, a ministry would have to be consistent with the Comprehensive Set of Policy Statements. However, section 3 of the *Planning Act* does not apply to a decision on a permit under the *Aggregates Resources Act*. Similarly, the policies would not over-ride an existing licence issued under that Act.

Relationship of Comprehensive Set of Policy Statements to Area-Specific Policy Statements and Provincial Plans

A policy statement or a provincial plan which is approved by the Lieutenant Governor in Council for a specific part of the province at some future date may take precedence over the more general provisions of the Comprehensive Set of Policy Statements, depending on the wording of the area specific policy statement.

Five-Year Review

The *Planning Act* requires the Minister of Municipal Affairs to review policy statements at least every five years to determine whether revisions are required. If the policy statements are subsequently amended, the related implementation guidelines will also be updated.

4. Implementation

4.1

Policy Statements Implemented Through Planning Decisions

Section G1 of the Comprehensive Set of Policy Statements provides that:

"Policy statements will be implemented by municipalities and other planning jurisdictions through their decisions on official plans, subdivisions, consents, zoning by-laws, minor variances, and other planning matters."

In keeping with the policy-led system, the main vehicle for applying the Comprehensive Set of Policy Statements and resolving conflict among policies, in the local context, will be the official plan. When preparing official plans, municipalities and planning boards will develop land use designations and policies which are consistent with the policy statements and which provide more information on how the policy statements are applied to reflect local conditions. Early and ongoing consultation with affected agencies will assist municipalities, planning boards and the approval authority in integrating applicable policies.

The province, when approving official plans for regions, counties, separated cities and other municipalities, and areas administered by planning boards, will ensure that these plans are consistent with the policy statements. Every effort will be made to resolve disputes in interpretation or application of the policies through the normal approval process. It is recommended that the approval authority coordinate the input of affected agencies into the development of the official plan so that the adopted plan reflects the policy statements. This means involving these agencies early in the planning approvals process. Disputes that cannot be resolved through the use of alternative dispute resolution mechanisms can be resolved by the Ontario Municipal Board. Decisions on official plans must "be consistent with" policy statements. However, once an official plan is approved under the new planning system, it is deemed to be consistent with policy statements issued under section 3(5) of the Act.

Decisions on development applications, including those on site-specific official plan amendments and zoning by-laws, must also be consistent with all applicable policies. The official plan may designate a site for residential land uses, with specific policies to guide development, but the details of development, which are discussed as part of the approval process for the related subdivision and rezoning would also have to be consistent with the policies. For example, decisions regarding a subdivision proposal on private services will have to ensure, through the review of appropriate studies, that water quality and quantity will be protected.

However, in many cases a development application or zoning by-law which conforms to an official plan which is consistent with all applicable policies of the Comprehensive Set of Policy Statements will also be consistent with the policy statements.

Until official plans that implement the policy statements are in place, integration will occur through the normal development approvals process. Early consultation with provincial ministries is strongly recommended to address possible conflicts among the policies. Where possible, the Ministry of Municipal Affairs will assist decision makers by coordinating a provincial response in such cases.

In many cases, official plans are in place which were approved before the Comprehensive Set of Policy Statements came into effect. Development decisions and zoning by-laws must conform with official plans. In addition, applications commenced after the amendments to the *Planning Act* are proclaimed, and the Comprehensive Set of Policy Statements come into effect, must "be consistent with" the Comprehensive Set of Policy Statements. However, the policies and designations of these official plans may not be consistent with the Comprehensive Set of Policy Statements. Where this situation arises, pre-consultation is encouraged with the municipality and affected provincial ministries to determine whether the proposal can be designed to conform with the official plan and still be consistent with the policy statements. For example, a subdivision proposal on a site which is designated residential but is adjacent to a natural heritage feature (as addressed in policy A1.2) may still be approved if an Environmental Impact Study (EIS) has been prepared which indicates that there will be no negative impacts on the feature or its functions, and

if the subdivision is designed to conform to the official plan and to reflect the findings of the EIS.

4.2

Transition Provisions

Section G2 of the Comprehensive Set of Policy Statements provides that:

"Once the policy statements come into effect, planning authorities "shall be consistent with" the policies in making decisions on all new planning applications. However, where a complete application has been made to the approval authority before the effective date of the policy statements, it must reflect the policy environment in place at the time of application. Similarly, in the review of site plans and rezonings which implement an approved application, planning authorities will apply the same policies which were used to review the approved application."

According to this policy:

- Decisions on applications submitted under the reformed planning system pursuant to the *Planning Act* and other Acts prescribed by regulations "shall be consistent with" the Comprehensive Set of Policy Statements.
- Decision makers, in making decisions on applications which were initiated before the effective date of the Comprehensive Set of Policy Statements, can evaluate those applications in the context of the policies which would have been applied if the Comprehensive Set of Policy Statements had not come into effect.
- Decisions on applications for rezoning and site plan approval which directly relate to and implement approved development applications, such as site-specific official plan amendments, subdivisions, consents and zoning by-law amendments, may be made in light of the same policies which were used to evaluate the related applications.

Effective Date of the Policy Statements

The Comprehensive Set of Policy Statements came into effect on the date of proclamation of the amendments to the *Planning Act* in the *Planning and Municipal Statute Law Amendment Act, 1994*. After proclamation, the policy statements apply to decisions on new applications for approval under the *Planning Act* and other prescribed Acts, **whether or not the policy statements are reflected in official plans**. However, section G2 provides exceptions under specified circumstances.

Planning Authorities

Planning authorities are bodies that have the power to make decisions under the *Planning Act*.

New Planning Applications

New planning applications are applications for approval under the *Planning Act* which were submitted on or after the effective date of the policy statements, except as provided below.

"Complete" Applications Submitted before Proclamation Date

Section 74.1 of the *Planning Act* establishes the circumstances under which an application made under the Act is considered to be commenced for the purposes of determining whether a matter must be continued and disposed of under the former Act. The term "complete application" is not defined in the Comprehensive Set of Policy Statements or in the *Planning Act*, R.S.O. 1990. It refers to an application which satisfied the statutory requirements of the *Planning Act*, R.S.O. 1990 (for example, a subdivision application which contains the information required by section 51(2) of the Act).

Application type	Application commenced when...
Official plan	Document adopted by council/planning board.
Official plan amendment initiated by the municipality or planning board.	Document adopted by council/planning board.
Official plan amendment initiated by any person or public body other than the municipality or planning board.	Request made to council/planning board to amend official plan.
Subdivision, Condominium	Application made for approval of a plan of subdivision or of a condominium description.
Consent	Application made for consent.
Rezoning initiated by municipality or planning board.	By-law passed by council/planning board
Rezoning initiated by any person or public body other than the municipality or planning board.	Application made for zoning by-law amendment.
Minor variance	Application made for minor variance.
Site plan	Application made for approval of plans and/or drawings.

Section G2 provides direction regarding the application of the policies of goals A to F to new applications and applications in process. When read with sections 3 and 74.1 of the Act, it provides guidance on the inter-relationship between policy and legislation.

During the transition period, decision makers will be dealing with four basic situations:

- 1. New legislation, new policies**

Generally, an application submitted after the date of proclamation will be subject to the policies of goals A to F and section G of the Comprehensive Set of Policy Statements, and will be processed under the requirements of the amended *Planning Act*. (except in the circumstances described in 4. below)

2. Old legislation, old policies

Applications which were commenced before the amendments to the *Planning Act* in the *Planning and Municipal Statute Law Amendment Act, 1994* came into force are subject to section 3 of the *Planning Act*, R.S.O. 1990, and therefore policy statements would be applied under the "shall have regard to" framework.

The Comprehensive Set of Policy Statements is a policy statement for the purposes of section 3, and therefore applies to these applications under a "shall have regard for" framework. As indicated above, section G2 of the Comprehensive Set of Policy Statements states that the existing policy framework will be applied to these applications. Accordingly, the policies of goals A to F, and the other provisions of section G, will not apply to applications which were commenced before the amendments to the *Planning Act* in the *Planning and Municipal Statute Law Amendment Act, 1994* were proclaimed.

3. Old legislation, new policies

There may be circumstances where all parties may agree to apply the policies of goals A to F and section G of the Comprehensive Set of Policy Statements in making a decision on an application which is being processed under the *Planning Act*, R.S.O. 1990. For example, the approval authority and the municipality may agree to modify an official plan or amendment commenced before the date the policy statements take effect to reflect the Comprehensive Set of Policy Statements to permit the official plan to more effectively guide future planning applications which will be subject to the policy statements.

4. New legislation, old policies

Where an application for rezoning or site plan approval which directly relates to and implements:

- a site-specific official plan amendment which was specifically designed to authorize the development which is subject of the site plan or site-specific rezoning;
- a site-specific amendment to a zoning by-law;
- a plan of subdivision or condominium description which has been given draft approval; or
- a provisional consent

which was approved prior to the date of proclamation of the amendments to the *Planning Act* in

Bill 163, or which was commenced prior to the date of proclamation and subsequently approved, a decision on the application for rezoning or site plan approval would be consistent with the Comprehensive Set of Policy Statements if it were made in accordance with the same policy environment which was applied to the decision on the directly related application (because of the exception provided by section G2).

Existing Policy Environment

Before the Comprehensive Set of Policy Statements came into effect, many of the policies contained in it were applied by the province in reviewing development proposals and commenting on planning documents. The existing "policy environment" is the substance of that group of policies which were applied by the province and municipalities in decisions on development applications on the day before the Comprehensive Set of Policy Statements was enacted, with the status each had at the time. The *Guideline Directory* (MMA, 1993) provides a listing of many of these policies.

Applications Submitted Before the Effective Date of the Four Policy Statements which Pre-dated the Comprehensive Set of Policy Statements

The rules which would have applied to an application before the Comprehensive Set of Policy Statements came into effect should continue to apply. Section 3 of the *Planning Act*, required that planning authorities, in making decisions on any planning matter, were required to "have regard to" the policy statements. The four existing policy statements would have applied to decisions on all affected applications, regardless of the date the application was made.

Section G2 does not change that requirement. A planning authority, in making a decision on an application which was submitted before the effective date of the Comprehensive Set of Policy Statements, must still have regard to the four pre-existing policy statements if the policy statements would have applied to the decisions on the day before the Comprehensive Set of Policy Statements came into effect.

Staff of the Ministry of Municipal Affairs, as well as other appropriate ministries, will be able to identify the policies which apply to an application.

4.3

Implementation Guidelines

Section G3 of the Comprehensive Set of Policy Statements provides that:

The Minister of Municipal Affairs, together with any other ministries and in consultation with the public, may prepare guidelines to assist planning jurisdictions in implementing policy statements. Implementation guidelines are advisory and will provide information on the meaning of the policies and illustrate ways for policies to be implemented."

Guidelines are advisory.

Guidelines provide information to assist in the understanding of the policies and describe some approaches which will result in decisions which are consistent with the policies. They do not add to or derogate from policy. In some cases they recommend methodologies for the implementation of the policies; in others they highlight a range of "best practices", based on current knowledge, experience or technology. These "best practices" and recommended methodologies may change as technology or techniques improve in the future.

Applications Submitted Under the *Planning Act* Which Relate to Applications Under Other Acts

A wide range of legislation may affect lands which are also the subject of applications under the *Planning Act*. There are many cases where an application for approval under the *Planning Act* may be related to applications for approval under other legislation. For example, the development of a residential subdivision adjacent to a water body will require approval under the *Planning Act*, but will likely also be affected by legislation administered by other ministries, such as the *Ontario Water Resources Act*, the *Lakes and Rivers Improvement Act*, the *Environmental Protection Act*, and the federal *Fisheries Act*. An attempt has been made to advise the reader of the standards or criteria which are applied in issuing approvals under related legislation in the guidelines.

In some cases, the technical criteria which will be used by the responsible ministry in evaluating applications under related legislation have been set out in the body of the guidelines, or in the technical guidelines. These criteria are not advisory but have been included for information purposes.

Illustrate Ways for the Policies to be Implemented

The guidelines do not present the only acceptable implementation approaches. Implementation techniques that are different from the approaches suggested in the guidelines may be considered

by decision makers if the decisions which result are consistent with the policies. Early discussions with the decision maker and affected ministry staff will help identify alternative approaches which will lead to decisions which are consistent with the policy statements. Discussions regarding such alternative approaches normally occur during background work for the preparation of an official plan or amendment.

4.4

Available Information

Section G4 of the Comprehensive Set of Policy Statements provides that:

"Ministries will provide available information to planning jurisdictions on matters of provincial significance outlined in policy statements, and may assist planning jurisdictions in mapping and developing their policies."

The province will not be able to generate information on or map all of the matters included in the policy statements. Instead, the province may assist in the implementation of the policies in several ways, such as:

- making available any existing information which may have been collected on these matters;
- providing criteria or standards for the collection of new information.

It is expected that all the partners in the land use planning process will share available information to promote a policy-led system.

4.5

Environmental Impact Studies

Section G6 of the Comprehensive Set of Policy Statements requires the preparation of an Environmental Impact Study to determine whether and under what conditions development should be permitted in or adjacent to specified natural heritage features listed in policy A1.2. For more information on the requirements regarding Environmental Impact Studies for Natural Heritage Features, please see the implementation guideline for policy A1.2.

